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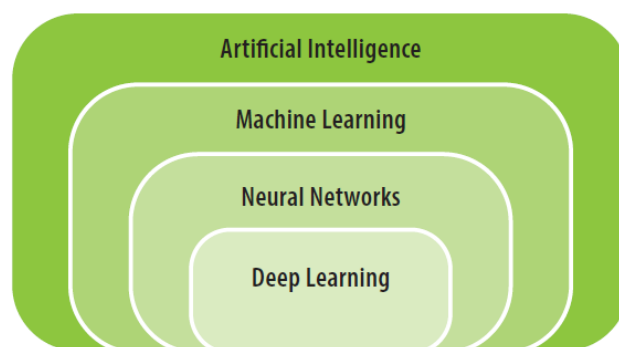
# **Guidelines for AI integration in Study and Research Process at EKA**

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## Introduction

Oxford Advanced Learner's Dictionary defines Artificial Intelligence (AI) as the study and development of computer systems that can copy intelligent human behavior. Machine learning is one of the most widespread approaches used to create different AI technologies, including natural language processing (NLP), speech recognition, image recognition and processing, etc. (Fig.1, for a review on AI techniques and technologies, see UNESCO Guidance for Policymakers<sup>1</sup>).



**Fig.1 Relationship between different technologies of Artificial Intelligence.** Machine Learning is a computational approach that “analyses large amounts of data to identify patterns and build a model which is then used to predict future values”. Neural Networks are a subset of Machine Learning that is inspired by the structure of animal brains and are comprised of interconnected layers of artificial neurons. Deep Learning is a Neural Network with multiple intermediary layers.<sup>1</sup>

One of the most recent NLP advances is ChatGPT, an open-access language model that functions as a chatbot and provides human-like responses to questions or prompts and generates original content. The easy access and user-friendly interface of ChatGPT make it an attractive tool for various tasks, including higher education and research. This raises concerns about academic integrity, research ethics, authorship, and plagiarism, since ChatGPT-generated texts are hard to distinguish from human-written content.

On the other hand, using AI, like ChatGPT, in education and research can provide many opportunities for increased work efficiency and improved quality. It can be used as a translator and editor for improved scientific writing, it can aid in data search and analysis, help generate ideas, assist with administrative tasks, etc.

Timely, strategic, and ethical integration of AI in the higher education is an important task not only to adapt to the demands of emerging new technologies, but also to the changing job market needs and thus the quality of education provided to students of EKA. Given that more and more tasks previously completed by humans will be carried out by AI because of lower costs and increased speed and efficiency, it is crucial to teach skills that would allow graduates to effectively navigate the era of AI and build their professional asset base.

The main challenge of the strategy for AI integration is to ensure ethical education and research and promote innovation while minimizing the risks and negative effects of AI use. Thus, the use of AI in the study process should facilitate reaching EKA's long-term goals and help strengthen the implementation of EKA's vision and values.

The aim of these guidelines is to provide an overview of the general strategy for managing and integrating AI technologies in the study and research process at EKA. This document lists the main guiding principles and suggests the course of action to lay the groundwork for effective AI integration.

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<sup>1</sup> Miao, F., Holmes, W., Huang, R., & Zhang, H. (2021). *AI and education: Guidance for policymakers*. UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000376709>, pp. 6-12

## Principles of ethics for AI integration

These Guidelines are based on ethical principles and values suggested by UNESCO<sup>2</sup>. The emergence of AI technologies holds risks not only to academic integrity but also to human rights for autonomy and equality. To minimize these risks, EKA undertakes to commit to the following principles for AI management and integration.

### 1. Equal opportunity for all

Everyone in the EKA community should have equal access to and understanding about AI, its applicability in the study process and research, as well as potential risks. EKA will strive to achieve this by providing the necessary training and access to education to its teachers and lecturers, as well as students, making sure that students of diverse backgrounds are properly included in the training process and that their cultural differences and/or other specific needs are addressed.

### 2. Individual autonomy and control

Even though everyone involved in academic work under EKA should be equally educated about AI technologies, EKA will respect individual rights to decide if and to what extent to incorporate AI in their work processes. EKA believes that high-quality, thorough training followed by regular updates on AI advances will empower its academic staff to make informed decisions about the appropriate use of AI in their classes. AI-powered work performance (as long as it fits the requirements for academic integrity) should not be deemed superior to solely human performance, in other words, there should not be negative consequences for not using AI.

### 3. Transparency and trust

All AI-related policies and decisions made by EKA will be clearly explained and made understandable to all parties concerned. Individual needs and opinions will be considered as much as possible to make policies more inclusive. Academic staff will be encouraged and trained to have an open dialogue with their students regarding the allowed use of AI and how their academic performance is evaluated with regard to inappropriate use of AI. Any decisions about rejecting or downgrading student assignments based on unauthorized use of AI will be thoroughly explained to the student and, if needed, third party opinion will be made available.

### 4. Responsibility and participation

EKA recognizes and accepts its role as an academic institution in developing and implementing AI policies and good practice in education and research. These policies, as well case studies, data and lessons learned may contribute to more ethical and effective AI usage strategies in academia not only locally, but also on a national and international level. Therefore, EKA remains open and proactive in sharing its experience and collaborating with other stakeholders, as long as proper ethical principles are in place during such collaborations.

### 5. Research ethics and originality

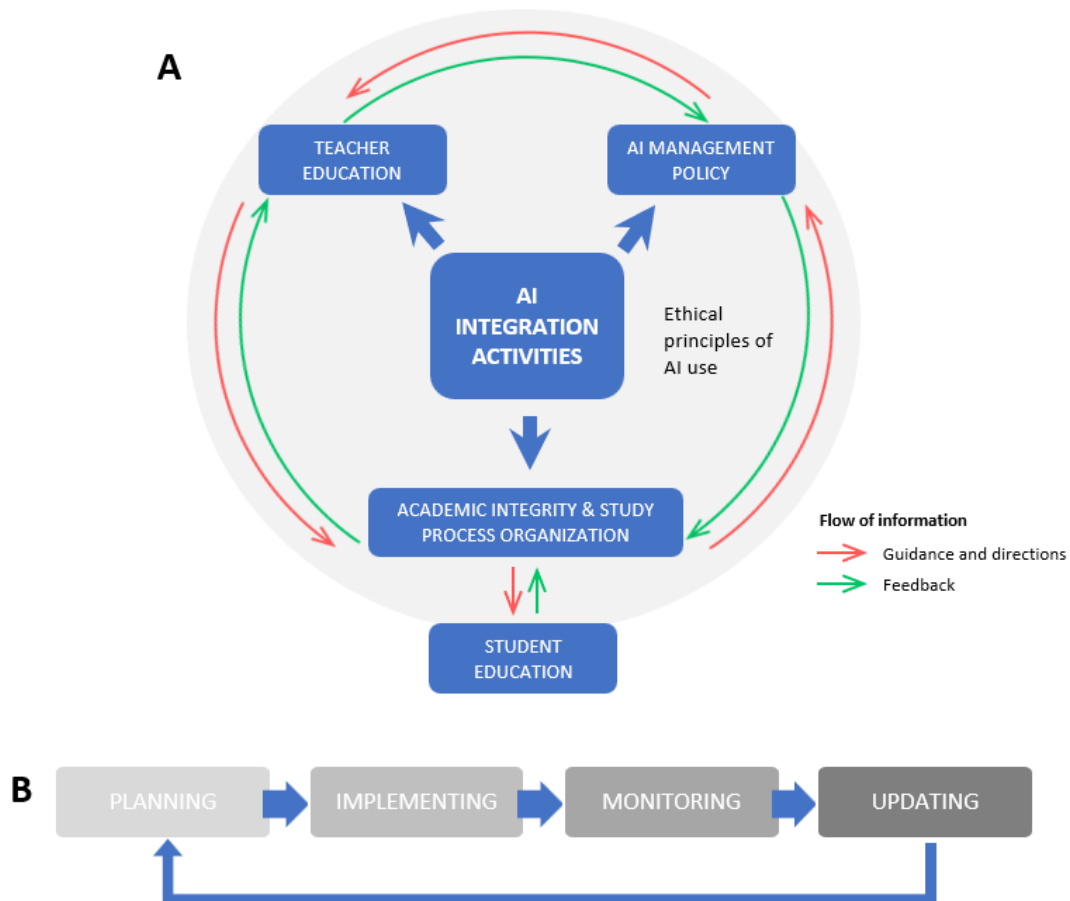
In the era of easy access to generative AI technologies, the preservation of legitimate research and high academic integrity is of special importance. Whilst the role and potential of AI to help advance research is undeniable, it is crucial to reiterate what constitutes original research and authorship. This will be an inherent part of AI-related training activities and information campaigns in EKA.

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<sup>2</sup> UNESCO. (2022). *Recommendation on the ethics of artificial intelligence*. <https://unesdoc.unesco.org/ark:/48223/pf0000381137>

## AI integration management

The main limitation to the current version of EKA AI integration management principles is the fact that mass access to generative AI is recent and research data about AI use in higher education are not yet accumulated. This calls for an agile, interactive, and feedback-based approach that is easily adaptable to the needs of the situation. The schematic representation of the strategy is shown in Figure 2. It suggests the main areas of focus which are interconnected to create a unified system of providing guidance and receiving feedback.



**Fig.2. A - Organization scheme of AI integration activities in EKA.** Four main areas of focus include activities for (1) teacher education, (2) creation of AI management policy and (3) updating study process organization whilst maintaining high academic integrity which, in turn, ensures (4) student education. Individual activity segments are linked in a unified system through a bidirectional flow of information that both provides directions and allows for receiving feedback. Furthermore, all AI integration activities are carried out in line with the overarching ethical principles of AI use.

**B – AI integration strategy implementation.** The AI integration process is executed in successive stages of planning, implementing, monitoring, and updating the existing strategy which is carried out in repeating cycles of continuous improvement. The stage of Implementing is carried out by guidance and directions contained in planned activities as indicated by the red arrows in segment A, whereas the Monitoring and Updating stages are supported by the feedback collected according to the green arrows in segment A.

To ensure ongoing implementation of the AI integration strategy, key responsibilities must be defined and preferably assigned to a single responsible person.

**Duties of the responsible person include:**

- oversight and monitoring of AI integration in the study process, including compliance with ethical principles,

- handling disagreements about forbidden or inappropriate use of AI that has potentially led to academic integrity violations,
- collecting and processing data about AI integration at EKA – student and teacher feedback, quality metrics, academic performance results, case studies, number of suspicious AI use cases, etc.,
- using the collected data to inform risk assessment and decisions on AI integration process effectiveness,
- surveying students and academic staff for their AI training needs and obtaining their feedback for continuous improvement of training programs,
- staying up to date with AI developments, reviewing the available literature and guidance documents, and, if needed, suggesting necessary changes and improvements,
- managing the available budget and resources and determining investment priorities,
- providing support for AI strategy harmonization with the quality management system and overall study process organization,
- reporting to the higher management and supporting strategic decision-making.

**Successfully integrated AI policy should achieve the following:**

- overall satisfaction of staff (AI alleviates and/or facilitates carrying out their teaching responsibilities),
- overall satisfaction of students (AI supports their academic achievement and enhances creativity while maintaining equal opportunities for all),
- no adverse consequences on academic integrity,
- collection of high-quality data for continuous improvement of AI integration,
- contribution to external discussions about AI policy development.

## Guidelines for teachers

Whenever possible, teachers should strive to encourage creativity and development of critical thinking skills, as well as the ability to formulate student's own opinion, as these skills are more essential than ever in the era of AI.

Teachers should define the scope and application of AI in their classes and, if necessary, adjust the grading criteria accordingly.

Some factors to base the decision to permit or prohibit the use of AI are:

- teacher's own comfort level and knowledge about AI technologies,
- teacher's unique vision for teaching their subject,
- teacher's preference for innovative solutions,
- the benefits and opportunities (or the lack thereof) of AI to help reach study goals,
- availability of resources and practical considerations to integrate AI in the study process, detect improper use, grant equal access to AI to all students if AI use is encouraged, etc.

Students should be instructed about the acceptable use of AI, and the assessment of assignments created with the help of AI should be clearly explained.

If applicable, the use of AI should be stated in learning outcomes, so that students can clearly understand the expectations.

The assignment formats should be revised, where necessary, to minimize the risks for AI abuse. This may involve changing the types of exam questions, choosing to have more in-person assessments, or reformulating the task (e.g. essay topic) in a way that clearly exploits the student's own thinking ability or creativity for a successful outcome.

## Guidelines for students

Students are responsible for complying with AI use limitations and requirements as instructed by EKA and teachers of individual study subjects.

This involves providing accurate citations if an AI has been used in student's assignments and/or thesis projects so that the student's original thoughts can be clearly distinguished from AI-generated content.

Similarly, if AI has been used to assist data collection, data analysis, or other tasks that significantly contribute to the main objective of a student's assignment, it should be described which data was provided by AI, what prompts were used to retrieve the data and any other significant information should be given to make it possible to replicate the query.

AI-generated content and data should be provided in line with the student's own critical evaluation of this information. Stand-alone AI content should be avoided. AI should be used to support the development of student's creative and critical thinking, and never as a substitute for it.

Whenever possible, the use of AI in a student's work should be justified and the student should explain how AI helps to reach his/her objectives for the given assignment (unless the assignment asks for a previously specified use of AI). This justification should be proven by effectively demonstrating the formation of the student's own argument around AI-generated information.

Students must respect the prohibition of AI use if a teacher has set this limit, even if other teachers allow its use.

When using AI within acceptable limits, it remains the responsibility of the student to make sure that AI-generated data is accurate and/or complete. Students are ultimately responsible for deciding which data and content to use and about their own expertise to critically evaluate the data. If the accuracy of data is important for the given assignment and the student cannot reliably verify the AI session output, it is recommended to avoid using the data.

## Practical examples

### **Study course "Commercial Negotiations" (Kaspars Karaševskis, Director of the study program "Logistics and International Trade")**

As part of the logistics program study course "Commercial Negotiations", students recognize the importance of integration of Artificial Intelligence as part of negotiations. The main objective of introducing AI in the course is to enable students to leverage AI technology to optimize negotiations process. Students are introduced to AI based negotiation tools and platforms, to have overview on how AI can be utilized for scenario analysis, predictive modeling, and data-driven decision-making, eventually improving the outcome of commercial negotiations.

### **Study course "Project management" (Jelena Budanceva, EKA Assistant Professor, director of the study programmes "Culture Management" and "International Culture Project Management")**

The topic "Creative thinking" within the study course "Project management", students are given the task to create a picture with help of AI platform "Midjourney" using key words, describing the concept of planned event. Showing picture to the group, describing the event on base of picture, asking other students to bring their ideas and associations from the picture for the event.

### **Study course "Economics Informatics" (Kristine Užule, EKA Associate Professor)**

To help students understand how to collaborate with AI in economic activities, the course "Economics Informatics" contains a few tasks to be completed using an open-access ChatGPT. One task is to identify if companies of a specific industry in a specific country have been striving for the attainment of a Sustainable Development Goal and determine if their actions could be considered reasonable in relation to Agenda 2030 of the United Nations. Using an open-access ChatGPT students are asked to answer the above questions, analyse some numerical and textual data to support their answers, and deliver a presentation on their collaborative efforts with AI. Students' presentations should include both a problem-solution description and a reflection on the following aspects: (1) beneficial aspects of using ChatGPT; (2) failure of ChatGPT; (3) comparison of ChatGPT with other digital tools (for example, Google Search, Microsoft Excel, etc.); (4) a human role in the task completion. The learning outcomes in relation to AI include students' awareness of AI-related constraints when conducting the analysis of economic activities.

### **Study course "Regional Economics" (Edgars Čerkovskis, Director of the Circular Economics and Social Entrepreneurship Master's Program)**

The study course "Regional Economics" assigns students the task of calculating the territorial development index for a freely chosen territory in Latvia based on the existing administrative territorial division. In the calculation process, students are allowed to use open-source artificial intelligence data analysis, reporting, and integration platforms such as MATLAB, KNIME, and RapidMiner. In the study course "Entrepreneurship," students are permitted to use Firefly — Adobe's generative artificial intelligence content creation tool — to create a company logo and a prototype design sample for a product. In the workshop "Digital Marketing," students are required to create personalized social media advertisements written in the AI-generated language developed by Persado. They are also expected to use artificial intelligence image recognition technology to craft personalized customer experiences.



## Practical recommendations

Based on the recommendations provided by the European Network of Academic Integrity, Elsevier<sup>3</sup> and discussions among EKA teaching and administrative staff members, the following practical recommendations should be taking into account by students and academic staff members:

- Authors of any type of scientific works (student paper, final thesis, research paper) should not list AI and AI-assisted technologies as an author or co-author, nor cite AI as an author.
- “All persons, sources, and tools that influence the ideas or generate the content should be properly acknowledged.”<sup>4</sup> In practice:
  - Research papers developed by students or teaching staff should contain a “Declaration of Generative AI and AI-assisted technologies in the writing process”. The appropriate statement has been incorporated in the templates for research papers.
  - If AI tool has been used: “During the preparation of this work the author(s) used [NAME TOOL / SERVICE] in order to [REASON]. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.”
  - If AI tool has NOT been used: “During the preparation of this work the author(s) have not used any type of generative AI or AI-assisted technologies.”
  - Final Thesis should contain a specific Appendix containing all the AI-related tools, part of the work in which these tools have been used, and reasons for usage.

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<sup>3</sup> Elsevier. (2023). Publishing ethics. <https://beta.elsevier.com/about/policies-and-standards/publishing-ethics#4-duties-of-authors>

<sup>4</sup> Foltynek, T., Bjelobaba, S., Glendinning, I., Khan, Z. R., Santos, R., Pavletic, P., & Kravjar, J. (2023). ENAI Recommendations on the ethical use of Artificial Intelligence in Education. *International Journal for Educational Integrity*, 19(1), Article number: 12 (2023). <https://doi.org/10.1007/s40979-023-00133-4>