Didactic Framework
Teaching GenAI Competencies

by FLAIR Collaboration

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Competence Domain	Learning Outcomes	Selected Examples & Good Practices
Foundational AI Knowledge *Understanding the basic principles, terminology, and functioning of AI (systems).*	**Students can …** … (1) explain what people understand by artificial intelligence, machine learning and generative AI (GenAI). … (2) explain "model training" in the machine learning context, describe the training procedures (including supervised, unsupervised, reinforcement learning, deep learning). ... (3) explain what type of data is used in model training and its role in AI. … (4) discuss strengths & limitations of GenAI. ... (5) define bias, quality of output, representation, fairness and explain how they are related to common AI limitations.	**"GenAI Interview" (FLAIR Teaching Toolkit)** *Students work in small groups. Each group selects a GenAI Tool. For this activity, the GenAI will be prompted to respond as its founder(s). The lecturer prepares a bank of questions in advance, and these are discussed and agreed collectively in class before the interviews begin (max. 10 questions per group). Topics may include model history, training methods, data sources, selection processes, bias, hallucination, predicted future features... Groups summarize their findings and report back to the class. The session concludes with a co-created comparison matrix capturing distinctive features, affordances, limitations, and projected developments of each model.* **Learning Outcomes 2, 4** **"Exploring AI Concepts" (FLAIR Teaching Toolkit)** *The session begins with a discussion, where students share their understanding of what AI is and how it works. The instructor gathers these ideas and makes the diversity of pre-conceptions visible. Students then engage with curated material (e.g. definitions, historical developments, capabilities of AI etc.) to deepen and update their conceptions.* *Working in small groups, the initial ideas are revisited, and strengths and weaknesses are discussed. Every student writes an individual reflective report, in which they articulate their understanding of AI.* **Learning Outcomes 1, 4**
Critical Engagement *Developing the ability to question, analyze, and reflect on AI-related content and claims. Reflect on (personal) GenAI use.*	**Students can …** … (6) develop evaluation strategies for GenAI outputs. ... (7) recognise common GenAI failures. … (8) compare AI and human sources to crosscheck information received from GenAI. ... (9) reflect on personal GenAI use and the social/personal risks of over-reliance. ... (10) recognize when GenAI is or is not appropriate for a task.	**"Spot the bot" (FLAIR Teaching Toolkit)** *Students each write a short response to an academic question, choosing either to use AI support or to write it fully independently. The responses are then exchanged among team members, who must guess whether each text was AI-assisted or purely human-written. The group discusses what features signaled credibility, quality, or AI involvement, and reflects on how these insights affect their evaluation of AI-generated content.* **Learning Outcomes 6, 8, 9** **"AI Output Assessment Lab" (FLAIR Teaching Toolkit)** *Students work in small groups and define quality criteria for the outcome of a specific task before they start working on it. Next, they use a GenAI tool to answer the task, evaluate the GenAI output against their pre-defined quality criteria and cross-check sources/information. Collaboratively, they revise and improve the output to fully meet the pre-defined quality standards. Finally, each group comes up with 5 personal conclusions on how they recommend approaching evaluating GenAI-generated content in future academic or professional tasks.* **Learning Outcomes 6, 8, 10** **"Blind-spot analysis" (Times Higher Education)** *Students examine genAI output on specific topics such as global supply chains or urban development that omit key perspectives such as marginalized voices or environmental concerns. Students identify what is missing, consider why these omissions occur – systematic bias or bias in the training data - and rewrite the text to include more comprehensive and inclusive viewpoints.* **Learning Outcomes 6, 7, 8** **"Illustrate a Hoax" (AI Pedagogy Project)** *Students choose a hoax, research it, and use AI tools to create visual "evidence" presenting it as real, hereby generating misinformation. Students prepare a 2-3 slide presentation. Class discussion and reflection focus on the challenges, ethical implications, potential harms, and benefits of AI-generated misinformation.* **Learning Outcomes 6, 9** **"Rock, Paper, Scissors, Code!"(AI Pedagogy Project)** *Students write a Python program for rock, paper, scissors, then ask ChatGPT to identify potential edge cases – i.e. unusual or extreme inputs that test the limits of a program - and assess its suggestions. Next, students create their own list of edge cases, fix any issues, and test the program before submitting the original code, ChatGPT's analysis, their edge case list, and the revised program.* **Learning Outcomes 6, 7, 8**

Ethical Responsibility *Understanding and acting upon the ethical dimensions and societal impacts of GenAI.*	**Students can …** … (11) identify ways to mitigate the ethical risks (bias, privacy, fairness) of GenAI use. … (12) demonstrate integrity in academic work when using GenAI. … (13) apply safe data practices when using GenAI (personal data, copyright-protected materials etc.). … (14) know how to appropriately cite GenAI in line with disciplinary and institutional guidelines. … (15) discuss the social/environmental impact of GenAI.	**"Co-creating expectations for GenAI use in assessments" (FLAIR Teaching Toolkit)** *Students will respond to a series of polling questions about the use of GenAI in their assessments. These questions may include ranking tasks/uses on a scale from "Absolutely not, that's cheating!" to "No learning is lost by outsourcing this task.", open-response questions to capture individual opinions, or categorization tasks, where students classify specific uses as (un)acceptable. Based on the responses they will agree on expectations for when/how much GenAI use is acceptable on that assignment. The groups then present their expectations in turn and either (a) work through the differences to co-create expectations for the module/course or (b) the lecturer will use the proposals to define a policy for the module/course.* **Learning Outcome 12** **"AI Impact Analysis" (FLAIR Teaching Toolkit)** *Students investigate (and/or read) current up to date reports about the social and environmental impact of AI. They develop an argument matrix where they discuss pros and cons / costs and benefits across thematic categories such as environmental sustainability, social justice, labor impacts, governance, and ethical considerations. Based on this structured comparison, students draw conclusions.* **Learning Outcome 15** **"AI, the Future and You" (AI Pedagogy Project)** *Students begin with a discussion-based reflection on how AI might affect their future, including hopes, worries, and questions. They then use genAI to research AI's impact on their chosen career pathways, evaluating sources for reliability and noting new skills, opportunities, and potential risks. Finally, they create an action plan based on their findings to guide future learning, university applications, and career preparation.* **Learning Outcomes 11, 15** **"AI in Teachers' Hands" (AI Pedagogy Project)** *Students use genAI to create a letter of recommendation for themselves, imagining this AI-generated letter was submitted by their teacher without their knowledge. They submit both the prompt(s) and AI output together with a 300-500 word reflection evaluating the letter's accuracy and effectiveness as well as ethical implications of using AI in recommendations. This includes considering how disclosure, partial use, or full use of AI might affect trust, fairness, and perceptions of integrity between students and teachers.* **Learning Outcomes 11, 13** **"Design ethical case studies using GenAI outputs" (Times Higher Education)** *Create case studies where students critically assess GenAI-generated decisions with ethical implications. For example, use a GenAI tool to simulate an automated hiring recommendation that ranks candidates based on biased criteria. Ask students to identify and explain the ethical issues – such as perpetuation of systemic bias – and propose actionable solutions, such as improving the training data or implementing fairness audits.* **Learning Outcomes 11, 15**
Creative & Practical Application *Applying AI concepts and tools in hands-on contexts. Using AI to support innovation, problem-solving, and creative processes.*	**Students can …** … (16) communicate and interact with GenAI effectively (formulate clear and effective prompts, iterate prompts and refine outputs). … (17) compare AI tools, select appropriate tools and justify selection. … (18) integrate AI outputs following defined quality standards. … (19) use GenAI to generate, expand and refine ideas. … (20) plan, monitor and evaluate personal AI use in specific contexts (e.g. for an assignment) and adjust strategies to reflect learning needs or goals.	**"Mapping genAI Support" (FLAIR Teaching Toolkit)** *Working in small groups, students discuss how they use GenAI to support complex, multi-step tasks (e.g. writing essays, analyzing case studies etc.). They analyze their workflow, identify which tools they use and map these to the steps of the task. Based on this analysis, they formulate recommendations for responsible and effective GenAI use for the specific task. These recommendations are then translated into a visual artefact (e.g. infographic, poster, etc.).* **Learning Outcomes 19, 20** **"Practising Theory of Mind" (FLAIR Teaching Toolkit)** **BARNGA: AI Edition** *What happens when you aren't on the same wavelength as your collaborator—and neither of you realizes it? In this hands-on session, students experience firsthand the hidden challenges of collaboration through the classic card game Barnga, then discover why these same dynamics make working with AI surprisingly tricky. Students will leave with practical strategies for building shared understanding with chatbots such as ChatGPT, Claude, Gemini or Copilot - AI tools that currenty don't ask questions, don't remember them, and aren't always aware of their own capabilities.* **Learning Outcome 16** **"Playtesting your ChatGPT Prompt" (AI Pedagogy Toolkit)** *Students practice "Rogers's rules", a conflict-resolution strategy requiring each speaker to accurately restate the previous speaker's ideas before offering their own, by designing and iteratively refining ChatGPT prompts that enforce these rules. They begin by drafting prompts to guide the AI in following Rogers's rules for classroom discussions on course-relevant topics. Students analyse conversation transcripts to ensure the AI consistently adheres to the rules, revising prompts as needed. Finally, they reflect on challenges in prompt design, insights into active listening and accurate interpretation, and the broader applications of these skills in human and AI-mediated discussions.* **Learning Objectives 16, 20**

Collaborative Intelligence (Humans & AI) *Engaging in effective and healthy human-AI and human-human collaboration in AI-mediated context.*	**Students can …** … (21) decide what tasks of a project they do themselves and what tasks they do in collaboration with GenAI. … (22) setting boundaries for AI collaboration to avoid overreliance and encourage transparency. … (23) decide which genAI tool(s) to use for specific tasks. … (24) clearly articulate why (and, if appropriate, how) GenAI tools were (or were not) used (including a rationale for trusting or rejecting specific outputs). … (25) negotiate AI use policies in team settings.	**"Use cases for GenAI in research projects" (FLAIR Teaching Toolkit)** *In groups, Students analyse a sample of research projects and identify which tasks are best suited for human-only work, AI-assisted work, and full AI-delegation and why.* **Learning Outcome 21** **"AI Co-Writing" (FLAIR Teaching Toolkit)** *Each student alternates turns with an AI to cowrite a short, discipline- specific- analytical brief (Context → Problem → Evidence → Implications → Recommendations), with each turn contributing exactly three new, non-repetitive sentences; students begin with three sentences establishing context and a focused problem statement, give a brief instruction for the AI's next turn, and continue the Student → AI pattern for 4–6 cycles within a 40–60 minute class session. Throughout the exercise students produce a concise analytical brief, critically evaluate and verify AI contributions, and reflect on editorial decisions and academic integrity as they resolve contradictions, add citations, and polish 2–3 actionable recommendations. As a final stage in a second 40–60-minute class, the class may optionally convert the individual briefs into a shared comparison matrix, summarizing common findings and risks across briefs.* **Learning Outcomes 21, 22** **"AI Sandwich" (AI Pedagogy Project)** *Use AI tools for the beginning and end of an assignment, with the middle being grounded in human knowledge and expertise.* *For instance, students use AI to brainstorm research directions or interview questions about a given topic. They select 5-10 relevant interview questions to be posed to the community in question. Then they choose 2-3 people to be interviewed from the respective communities, e.g. a friend, shop owner, politician etc. After conducting the interviews, students use an AI tool to turn interview notes into an outline and draft, experiment with multiple AI-generated conclusions and styles, evaluate these against their field research, and submit a revised essay along with a brief log of their prompt history and a reflection on the use of AI.* **Learning Outcomes 21, 22** **"AI Image Remixing" (AI Pedagogy Project)** *Students use an AI "remixer" to combine 2-5 selected images on* **Artbreeder***, experimenting with blending tools to create an original AI-generated image that prompts reflection on creativity and authorship. After generating, students share it alongside their source images and explain their selection and creative process. The activity encourages students to consider how AI models "learn" from input images and the extent to which humans and machines share authorship. Students then discuss how AI participates in artistic creation, what freedoms and constraints they experienced, and the potential risks and uses of such tools in creative fields.* **Learning Outcomes 22, 24**