From library to lecture hall
Developing students' and staff's genAI literacy at ETH Zurich

1. Introduction

University libraries, such as ETH Library, are increasingly becoming educational partners in teaching a wide range of competencies at higher education institutions.[1] The advent of generative artificial intelligence (genAI) and its impact on academic workflows provide an additional opportunity for university libraries to establish themselves as key stakeholders in teaching information literacy[2], including genAI competence.

1.1 Collaboration of ETH Library in an early genAI initiative at ETH Zurich

The release of the first genAI chatbots in late 2022 led to a fast reaction within the highly innovative Department of Environmental System Sciences (D-USYS) at ETH Zurich and the Plant Science Center. A group of lecturers developed a project to create resources for experimenting with this new technology in higher education. The project "Assessing the Potential of AI for Scientific Writing" was funded by the competitive ETH internal grant for innovative teaching (Innovedum) in May 2023. The grant enabled the team to collect best practices, curate teaching materials, and create guidelines for using genAI in scientific writing and teaching.[3] ETH Library was a project partner in this early initiative, marking an important milestone in its establishment as a central player in building AI competencies within ETH Zurich.

1.2 First genAI services at ETH Library

In recent years, the ETH Library has significantly expanded its services in the field of academic writing including literature search, writing assistance, and publication processes. The Information Literacy Hub (ILH) team at ETH Library started developing new genAI services, including two four-hour face-to-face courses that were first offered in September 2023. The course "Scientific Writing Using ChatGPT Effectively and Responsibly" focused on introducing ChatGPT and its use in scientific writing and studying for beginners. The course "Mastering Scientific Writing with ChatGPT and other AI-based Tools" targeted more experienced users and explored various AI tools and their applications in scientific writing and literature searches. After about a year, the two courses were merged into the new

1 Martzoukou, Konstantina: Academic Libraries in COVID-19: A Renewed Mission for Digital Literacy, in: Library Management 42 (4-5), 23.12.2020, p. 266-276. https://doi.org/10.1108/LM-09-2020-0131.
Delaney, Geraldine; Bates, Jessica: Envisioning the Academic Library: A Reflection on Roles, Relevancy and Relationships, in: New Review of Academic Librarianship 21 (1), 02.01.2015, p. 30-51. https://doi.org/10.1080/13614533.2014.911194.

2 Vogus, Brad: Generative AI and ChatGPT: Friend or Foe for Academic Libraries?, in: Public Services Quarterly 19 (4), 02.10.2023, p. 309-312. https://doi.org/10.1080/15228959.2023.2266358 .
Chaudhuri, Jayati; Terrones, Lettycia: Reshaping Academic Library Information Literacy Programs in the Advent of ChatGPT and Other Generative AI Technologies, in: Internet Reference Services Quarterly 29 (1), 02.01.2025, p. 1-25. https://doi.org/10.1080/10875301.2024.2400132.
Welte, Caroline; Künzle, Cornelia; Edinger, Eva-Christina et al.: Generative Künstliche Intelligenz trifft Informationskompetenz: Strategien an der ETH-Bibliothek, in: 027.7 11 (2), 2024. https://doi.org/10.21428/1bfadeb6.97eebab7.

3 Paschke, Melanie; Mihálka, Réka; Sudau, Manuel: Assessing the Potential of AI for Scientific Writing Techniques, Innovedum Public, https://innovedumprojekte.ethz.ch/3829/en, last accessed: 14.07.2025.

course “Mastering Scientific Writing with AI-Based Tools”, which provides an overview of various AI tools and their use cases, effective prompting techniques, and ethical concerns such as bias, hallucination, data security, overreliance, and environmental and social impacts. To date, ETH Library has delivered more than 35 regular courses on genAI and nearly 20 additional tailored courses for research groups or institutes. Approximately 1000 participants have joined the courses, ranging from bachelor’s degree students to senior researchers and administrative staff. Most of the participants have scientific background and are either in their doctoral or postdoctoral career stage. Even in fall 2025, the newly announced courses are always fully booked, although they are not filling up as quickly as in the beginning.

1.3 Insights from the early stages of services

Teaching courses on genAI and AI-based tools enabled us to identify some key challenges associated with these services. Participants had different levels of experience with genAI as well as varied learning needs, which were often related to their career stage. For example, the interests of a lecturer using AI-based tools in their teaching differ from those of a bachelor’s student using genAI in class or a doctoral student working on their thesis. Also, it became increasingly clear that teaching the fundamentals of genAI took valuable time away from hands-on practice.

These findings led to the conclusion that there is no one-size-fits-all solution and that it is necessary to establish different learning pathways. However, this required additional resources. Consequently, ETH Library’s ILH team submitted an Innovedum proposal titled “Scaled-up Learning Opportunities on Generative AI at ETH Zurich”[4] and secured funding for a 50% position for one year. All activities described in the following were developed by a core team with a total of 1.2 full-time equivalent (FTE), partly in collaboration with other teams of ETH Library.

2. Scaling up learning opportunities at ETH Zurich

Firstly, a roadmap was created that factored in skill level, career stage, learning interests, and learning formats. This served as the blueprint for developing new services, which are shown in Fig. 1 and outlined in the following section. We also created an overview webpage on “Scientific working and writing with AI-based tools”, which introduces the topic and links to our services at ETH Library and other units at ETH Zurich.

4 Welte, Caroline; Mihálka, Mihálka, Réka: Scaled-up learning opportunities on generative AI at ETH Zurich, Innovedum Public, 29.02.2024, https://innovedumprojekte.ethz.ch/4249/en, last accessed: 24.07.2025.

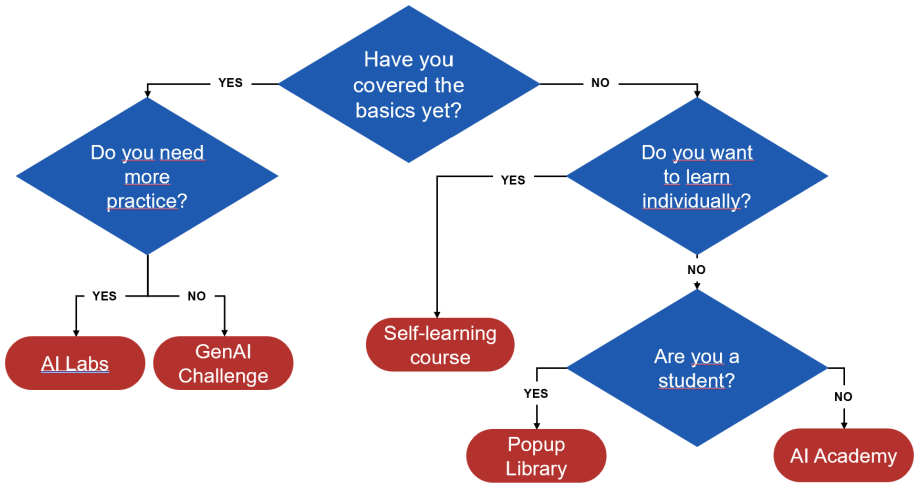

Fig. 1: Road map of the services developed by ETH Library as part of the Innovedum project

2.1 Moodle self-paced course

The main purpose of the self-learning course *AI-based Tools for Scientific Writing and Research* offered on Moodle, ETH Zurich's knowledge management platform, is to teach basic genAI skills to all members of the ETH community, ranging from students and professors to administrative and technical staff. This scalable format allows a large number of learners to choose topics of interest and to study at their own pace. Topics include the technical background, prompting, reading and writing with genAI, creating images, learning and researching with genAI, as well as ethical concerns and best practices (Fig. 2). The course is structured into reading sections, multimedia elements, exercises, and reflection tasks. A central feature is a monthly update on the development of technology and research on the educational applications of genAI, which is sent to all enrolled learners via a forum post.

The self-paced course was launched in January 2025, and in July 2025 more than 800 learners were subscribed.

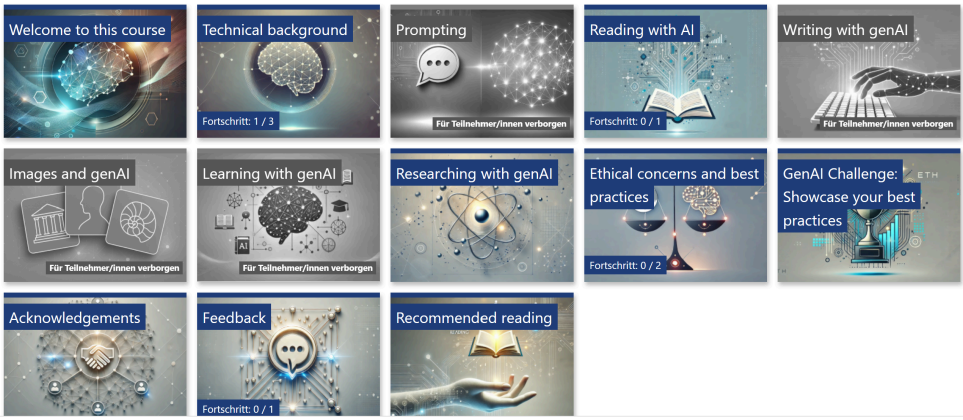

Fig. 2: Overview of the sections in the self-paced course on the Moodle platform. Images were created with ChatGPT-4o

2.2 AI Academies

ETH Library designed the AI Academy series in collaboration with the Unit for Teaching and Learning (UTL), the organizational unit under the rector of ETH Zurich that is responsible for didactic aspects and supporting teaching. This initiative aimed to provide staff, including lecturers and doctoral students, with practical knowledge on genAI and other AI-based tools for scientific writing, literature search, ethical concerns, and teaching.

Recognizing the diverse needs across departments, we offered a customizable menu of topics to tailor the workshops to the specific needs in different departments. The following topics were available:

1. Large language models and their use in scientific writing: understanding how tools such as Microsoft Copilot, Gemini, Claude, or ChatGPT can assist in planning, drafting, revising, and publishing academic texts.
2. Literature search with AI-based tools: how to find and evaluate reliable academic sources with the help of emerging technologies.
3. Ethical aspects of generative AI: discussion of plagiarism and the broader implications for scientific integrity, data security, bias, equitability, overreliance, etc.
4. Teaching and learning with AI-based tools: practical insights into integrating AI-based tools in the teaching and learning process, with expertise from UTL.

The department selected up to two topics from this list, and we designed a 1.5-hour face-to-face workshop combining short presentations, exercises and discussions, which was delivered in the department's premises. The AI Academy highlighted practical and ethically responsible approaches to integrating these tools into everyday academic workflows, contributing to both research and teaching quality and efficiency.

In spring 2025, three AI Academies were organized. One consisted of two workshops covering topics a) and b) in the first workshop and topic d) in the second. The second AI Academy focused on topic d), while the third focused on topics a) and b). The number of participants of all four workshops combined was around 95.

2.3 AI Labs

The AI Lab is a two-hour in-person workshop with a flipped classroom approach. Participants are expected to have studied the relevant materials from the self-paced Moodle course before attending the course. On site, participants can apply their online learning to practical scenarios. This format accommodates users who need guided practice and those who wish to work independently but occasionally require support. Participants gain first-hand experiences with genAI while working on their own research or learning tasks.

So far, one AI Lab with a focus on scientific writing has been conducted. The workshop was structured according to the four aspects of planning, drafting, revising and publishing. AI Labs on other topics, e.g. literature search, are currently being planned.

2.4 Pop-up stands

To provide a low-threshold service aimed primarily at bachelor's and master's students, ETH Library designed pop-up stands to raise awareness of the risks and opportunities associated with AI-based technologies. At every stand, at least two library experts were available to answer questions of students during the two- to three-hour pop-up event. A fortune wheel served as a conversation starter. Different categories were highlighted on the wheel, each corresponding to a set of questions. The categories included data security, technical aspects, use cases of genAI, governance, ethics, plagiarism, and reflection.

We sought collaborations with subject-specific libraries or departments whenever possible to test different sites and to bring subject-specific expertise to the stand. Over the course of three months, five pop-up events occurred, and nearly 200 conversations took place.

2.5 AI Challenge

We assumed that there had to be advanced AI users at ETH Zurich, who had found innovative and effective ways to employ this new technology in their academic work. To make these best practices regarding the use of AI-based tools and genAI visible, ETH Library organized a competition, the GenAI Challenge. It allowed us to identify innovative, practical uses of AI, fostering knowledge sharing and community-driven expertise at ETH Zurich.

There were two categories: one for students (including doctoral students) and one for staff. Prizes were awarded for the best submissions. Altogether, 18 submissions were received: 12 in the staff category and six in the student category. The five winning submissions were published in the ETH Zurich's repository for publications and research data ("Research Collection"), where they are tagged with the subtitle "GenAI Challenge".

3. Reflection

All new services developed by ETH Library within the one-year duration of the Innovedum project were well attended, with the Moodle self-learning course receiving the highest level of interest. The high registration numbers suggest that this learning format meets a need within the university community. From ETH Library's perspective, it is also ideal in terms of scalability. In addition, it enables the library to establish itself as a point of contact for questions related to the use of AI-based tools within the university. Formats like the pop-up stands require significant personnel resources for a relatively low learning impact. However, they play a role in sensitizing our target groups for the topic and making ETH Library visible.

3.1 Format-specific reflection for in-person settings

The regular course "Mastering Scientific Writing with AI-Based Tools" continued to run in parallel with the Innovedum project and remained the most requested format, even though it contains comparatively little active learning. Interestingly, one highly popular variant was created without any active learning elements and spread by word of mouth among research groups, likely because it delivers a large amount of information in a compact format. In general, voluntary participation in this course fostered active engagement and fruitful discussions, although a few skeptical voices regarding the use of AI-based tools were also discernible. The key challenge of these frontal formats is the constant need to revise and adapt course materials to reflect the rapid developments in AI-based tools.

The AI Academy posed different challenges. In this format, some participants were required to attend the event by their supervisors. This resulted in lower motivation and a negative attitude, which, in our view, may have stemmed from existential fears related to the technology. As genAI is emerging as a profoundly disruptive technology to white-collar jobs, educators of genAI will also need to address the emotions surrounding the adoption of the technology, not just the know-how. This makes teaching genAI courses rather unique in an academic setting. Nevertheless, addressing academics' fears and preconceptions about genAI may be at least as important as teaching the skills needed to use genAI tools.

Lastly, the AI Lab may be the most forward-looking format. Once the acceptance level of the new technology allows, academics will need a lot of practical guidance on incorporating these new tools in their workflows. With a flipped classroom format, the traditional presentation style of teaching can be reduced to make room for more experimentation. Generative AI as a "normal technology"[5] may be relatively easy to understand but challenging to adopt, which is why individual experimentation will be indispensable. Supporting course participants to try out and assess different tools and different tasks in their own contexts appears to us to be the most worthwhile teaching method for the next few years.

5 Narayanan, Arvind and Kapoor, Sayash. "AI as normal technology". 15 April 2025. https://www.normaltech.ai/p/ai-as-normal-technology, last accessed: 24.07.2025.

The pop-up stands format proved to be an effective and approachable way to engage students in spontaneous dialogue about AI-based tools. It offered valuable insights into students' concerns, questions and misconceptions, while providing an opportunity to promote relevant library services. However, the nature of these interactions often remained superficial due to time constraints and the informal setting. Additionally, the current lack of personnel limits the sustainability of this format, despite its clear potential for outreach and awareness-raising.

3.2 Benefits of the new formats

The ETH Library's newly developed genAI services have demonstrated a variety of benefits across different formats, particularly in terms of fostering active learning and maintaining adaptability in a rapidly evolving technological landscape.

Active learning: The genAI services developed by ETH Library are characterized by a high degree of active learning. The self-paced Moodle course includes exercises and reflection tasks that encourage course participants to share insights or questions in a forum. In the on-site formats (e.g., the regular course and the AI Academy), we promote peer learning by encouraging participants to share their experiences with genAI use and by giving them the opportunity to consolidate their insights in pairs before the plenary discussion. Through case studies, students can reflect on ethical issues and identify the best courses of action. In the AI Lab, students engage with authentic tasks; for example, they work on a paragraph from their manuscript with genAI assistance. The interactivity that characterizes all formats benefits both participants, who can consolidate their learning through lively discussions, and course instructors, who gain insights into the questions, needs, and knowledge gaps of diverse target groups. This mutual learning contributes to the continuous improvement of our services.

Positive reception: The new services have been well received by participants. Participants particularly value group reflections on ethical aspects, and they frequently mention that many of the tools discussed have been unknown to them. Conversations with participants reveal that institutional support regarding genAI varies widely, depending on the research group or department. ETH Library thus fills a gap, especially for those who would otherwise receive little guidance. The design and coverage of our services seem to have resonated well elsewhere, too: other universities and libraries have also expressed interest in our work.

Adaptability: One aspect of our services that was key to their success was their adaptability, both in terms of form (see Section 3 about our diverse formats) and content. Due to the constant evolution of the technological context and the participants' background knowledge and learning needs it was impossible to design just one learning opportunity and keep offering it unchanged. With the whole field in flux, any teaching offer must be flexible and adapt to the demands of the context.

3.3 Challenges

Although the new formats have demonstrated clear benefits, their implementation has also revealed several challenges regarding the expertise required of instructors and the resources necessary to provide high-quality services.

Expertise of instructors: To ensure the educational value of interactive formats, instructors must have skills not only in generative AI but also in didactics and the English language. This requires professional development, especially regarding teaching methods for diverse and interdisciplinary audiences. A related challenge is to build AI expertise among library staff involved in teaching information literacy. Staff must understand new technologies and know how researchers and students use these tools at different stages of the academic process, such as literature search, writing and publishing. This is necessary to identify and respond to the actual needs of our target groups.

ETH Library has supported its instructors in building genAI expertise through course preparation workshops. During these half-day formats, instructors exchanged ideas with peers and experts and learned to integrate genAI tools in their teaching. Additionally, the AI Workshop series was launched to share practical tips, foundational knowledge, and deeper insights into AI-related topics, helping staff stay informed and connected to ongoing developments. The scope of these services was beyond the Innovedum project.

Resources: Delivering high-quality, tailored, and up-to-date offerings requires motivated staff with dedicated time for teaching. Integrating AI-based tools and keeping up with this dynamic field are important tasks for library course instructors. It is a very resource-intensive undertaking to continuously develop our services. The rapid development of AI-based technologies contributes to this by requiring constant monitoring of developments and ongoing comparison with existing offers. What adds to the resource-intensiveness further is the necessity to collaborate. Information literacy expertise is distributed among different teams within ETH library, a factor that must be considered when developing genAI services. However, collaboration also facilitates knowledge transfer and helps us ensure that we are disseminating accurate information. In terms of resources, a future challenge lies in maintaining and further developing our current offers in the long term, ensuring they remain relevant, well-resourced, and embedded in ETH's teaching infrastructure.

4. Outlook

The ongoing transformation accelerated by AI-based technologies has served as a stepping stone for ETH Library to strengthen its collaborations within the university and to increase its relevance for students and researchers.

As AI-based technologies continue to evolve rapidly, ETH Library must continuously reflect on its role in teaching at the intersection of information literacy and genAI. This includes asking questions such as "Which services are still necessary?" and "What new services need to be developed?".

In the future, ETH Library aims to further develop its offerings by integrating genAI into existing services. Although the transitional period induced by the release of the first AI-based tools is still ongoing and requires a dedicated genAI course, the interest in such standalone formats is gradually declining.

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