

# Artificial Intelligence Competency Framework

## Framework Purpose and Use

**This framework is intended to be non-prescriptive;** it is not to signal that every faculty member should teach every facet of this framework; rather, this framework is intended to act as a guide for faculty to consider multiple forms of AI literacy and to open conversations with students and colleagues about how they can help shape the norms and understandings required to use AI responsibly, ethically, and appropriately within their own disciplinary contexts. However, it is recommended that where AI use is deemed to be inappropriate for a particular course or assessment, faculty consider that a conscious and purposeful decision to not use AI should be transparent and discussed with students, and this discussion can be framed within functional, critical, and ethical literacy contexts, thus addressing components of the framework even where AI is not to be used.

AI technologies are developing rapidly, and educators must work to prepare their students for an AI-enabled world while also supporting key learning outcomes, academic integrity, and sound assessment practices. The impacts of AI are felt differently across disciplines and courses, requiring a flexible approach that provides program areas and individual faculty with the room to determine appropriate degrees and types of AI usage in their courses.

## Recommended AI Competencies

### Functional Literacy

Functional literacy forms the foundation of other literacies and provides students with the skills to employ and experiment with AI tools in a variety of contexts. It is comprised of an understanding of how AI systems work, as well as the operational and applied skills required to engage common AI interfaces and platforms effectively (Becker et al., 2024; Wu, 2024). Drawing on Selber's (2004) parameters and qualities of a functionally literate student in the digital age, a student who demonstrates functional literacy in AI will be able to

- use specialized language to define and describe AI,

- use AI in different educational contexts,
- identify when AI use is appropriate and which tools to use for which tasks,
- manage and direct AI programs with confidence to meet a variety of needs, and
- resolve challenges they may encounter when using AI.

## Critical Literacy

Critical literacy helps to ensure that humans always maintain control when using AI programs, empowering them to remain the *human in the loop* (Mollick, 2024). This includes practicing sound evaluative judgement of AI outputs (Bearman et al., 2024; Dawson, 2023), evaluating the roles and implications of AI systems (Becker et al., 2024), and understanding the inherent value of one's own thinking and why it cannot be fully replaced by AI (Mollick, 2024). Critical literacy allows users to leverage AI for its benefits while also mitigating its risks.

Critical literacy is supported by functional literacy and is closely connected to ethical literacy, though it can be differentiated as the critical thinking processes students must engage in to understand the limitations of AI use, the important role their own thinking continues to play, and the extent to which an AI output has effectively served its purpose.

A student who demonstrates critical literacy in AI will be able to

- identify various contexts for AI use and demonstrate awareness that the appropriateness and type of AI use is dependent on these contexts;
- articulate their question or purpose for using AI, using rhetorical awareness of purpose, genre, and scope to reframe their question or purpose as needed;
- demonstrate metacognitive awareness by identifying how AI functions as a form of cognitive offloading and what processes AI systems are being used to support that would otherwise have been human-generated;
- use evaluative judgement to assess and articulate the accuracy, comprehensiveness, appropriateness, and quality of AI outputs;
- identify and address bias, hallucinations, and other issues in AI outputs; and
- critically reflect on the role of AI in their education, their personal lives, their work, and in society.

## Ethical Literacy

Ethical literacy supports responsible AI use, both in the classroom and beyond. As AI and machine learning technologies break new ground and become further integrated into everyday processes, they must be brought into alignment with human values (Christian, 2020). In the context of AI, these values include fairness, accountability, transparency, privacy, intellectual property rights, and environmental sustainability (Becker et al., 2024), as well as authenticity. Students must demonstrate their learning with integrity, exercise good judgement in the types of information they allow AI systems to access and produce, use AI conscientiously, and help shape the future of AI alignment as citizens and professionals.

Humans can offload certain processes to AI systems, but they cannot offload responsibility to these systems (Eaton, 2023). AI is not an author and should not be regarded as one. Only humans can retain the rights and responsibilities of authorship, including academic and research integrity, conflict of interest disclosure, and intellectual property rights. Similarly, AI systems are a tool, not a source. Scholarly work relies on scholarly conversation, where human-authored sources are used to explore questions, present research findings, and inform arguments or hypotheses, and those sources must be represented fairly and accurately in academic work. AI may offer claims based on sources it finds, but it is not the source of that information. Attribution of sources remains important (Eaton, 2023), as does direct engagement and familiarity with the sources being cited.

AI systems may analyze data and documents from the open web, or they may be provided with data and documents to analyze. Students and researchers must be mindful of the copyright and intellectual property ownership of the data and documents their AI systems are using, and they must exercise appropriate caution and judgement when deciding whether or not to use AI systems to analyze sensitive information or others' intellectual property, such as others' intellectual or creative works, research data, patient or client information, or proprietary data.

Finally, digital systems are not separate from our physical world and its finite resources and human labour (Knox, 2019). Though their material effects are often not seen directly by users and are not easily calculable due to the proprietary nature of the data behind these effects, AI systems exacerbate issues of sustainability with their demand for power generation and water resources and their reliance on human labour to create, program, and sustain them.

These systems also carry ethical implications regarding intellectual property rights, data usage, and privacy. Thus, users should be mindful of their consumption and impact when choosing which tasks to use AI to complete and which tools to use to complete those tasks.

Students can demonstrate key principles of ethical literacy by

- adhering to course policies and assignment instructions,
- disclosing their use of AI or their methods and processes when required,
- representing and attributing sources fairly and appropriately,
- protecting and managing data appropriately, and
- choosing carefully when and how to use AI as an energy- and water-intensive resource.

## Authorship and Approval History

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2025-12: Reviewed and Endorsed by the Academic Technologies Committee

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Appendix A  
Competency Framework Comparison

Framework	<a href="#">Moxie (2024)</a>	<a href="#">Stanford</a>	<a href="#">Educause</a>	<a href="#">USask</a>
<b>Goal/Vision</b>	<ul style="list-style-type: none"> <li>Equip stakeholders in higher education with the tools to engage with AI in responsible, functional, critical, &amp; ethical ways by addressing their specific needs and challenges</li> </ul>	<ul style="list-style-type: none"> <li>Advance teaching &amp; learning, foster personal growth, &amp; inspire committed action in the service of all community members</li> </ul>	<ul style="list-style-type: none"> <li>Provide a conceptual foundation for AI education &amp; programming efforts in higher education institutions</li> </ul>	<ul style="list-style-type: none"> <li>Develop comprehensive principles &amp; guidelines for the use of AI that align with core areas of research, teaching, &amp; administration</li> </ul>
<b>Principles</b>	<ul style="list-style-type: none"> <li>Foster ethical &amp; responsible use of AI technologies</li> <li>Build on the foundational work of digital literacy theorists</li> <li>Ensure accessibility &amp; ease of implementation</li> <li>Maintain flexibility &amp; relevance within higher education</li> </ul>	<ul style="list-style-type: none"> <li>Emphasize the practical &amp; pedagogical applications of AI tools in classroom settings</li> </ul>	<ul style="list-style-type: none"> <li>Provide a structured approach for AI use, supporting learning through explanations of key AI concepts &amp; reflective questions for consideration</li> </ul>	<ul style="list-style-type: none"> <li>Ensure the ethical, effective, &amp; responsible use of AI in ways that support USask's mission, vision, values, &amp; strategic objectives</li> <li>Maintain the trust &amp; confidence of all stakeholders</li> </ul>
<b>Values</b>	<ul style="list-style-type: none"> <li>Humans &amp; AI should work collaboratively in a synergistic relationship</li> <li>Human creativity should be augmented, not supplanted, by AI</li> </ul>	<ul style="list-style-type: none"> <li>Centres human agency, responsibility, &amp; accountability on appropriate use of AI</li> <li>Human creativity should be augmented, not supplanted, by AI</li> </ul>	<ul style="list-style-type: none"> <li>Meet learners at their current literacy level and build upon it, regardless of their prior knowledge</li> </ul>	<p>Principles rest on the following values:</p> <ul style="list-style-type: none"> <li>Leadership</li> <li>Innovation</li> <li>Engagement</li> <li>Support</li> </ul>
<b>Inspiration</b>	<ul style="list-style-type: none"> <li>Krashen's (1985) input hypothesis</li> <li>Selber (2004)</li> <li>Gupta (2004)</li> </ul>	<ul style="list-style-type: none"> <li>Selber (2004)</li> <li>Becker et. al (2024)</li> <li>Miao &amp; Cukurova (2024)</li> </ul>	<ul style="list-style-type: none"> <li>Structure adapted University of Hong Kong &amp; Hong Kong University of Science and Technology</li> <li>Hong Kong University of Science &amp; Technology builds upon Bloom's Taxonomy</li> </ul>	<ul style="list-style-type: none"> <li>The Beijing Consensus on Artificial Intelligence &amp; Education</li> <li>World Economic Forum's Seven Principles for AI in Education</li> <li>UNESCO's Ten Core Principles for a Humanistic Approach to AI</li> </ul>

<b>Foundations</b>	<p>Based on Selber's literacy foundations:</p> <ul style="list-style-type: none"> <li>•Functional Literacy - using technology effectively</li> <li>•Critical literacy - evaluating technology thoughtfully; &amp;</li> <li>•Rhetorical literacy - creating with technology purposefully</li> </ul>	<p>Centres the following literacies as interconnected &amp; grounded in human-centered values:</p> <ul style="list-style-type: none"> <li>•Functional literacy</li> <li>•Ethical literacy</li> <li>•Rhetorical literacy</li> <li>•Pedagogical literacy</li> </ul>	<p>Each level includes core competencies, key concepts, &amp; reflective questions:</p> <ol style="list-style-type: none"> <li>1) Understanding</li> <li>2) Use &amp; Apply AI</li> <li>3) Analyze &amp; Evaluate AI; &amp;</li> <li>4) Create AI</li> </ol> <ul style="list-style-type: none"> <li>•Structure appears hierarchical, though this progression is not required for implementation</li> </ul>	<p>Principles have 4 categories:</p> <ol style="list-style-type: none"> <li>1) Ethical &amp; Responsible Use</li> <li>2) Literacy</li> <li>3) Tool Use</li> <li>4) Change &amp; Innovation</li> </ol>
<b>Strengths</b>	<ul style="list-style-type: none"> <li>•Specifically tailored to higher education</li> <li>•Emphasizes intentional human use &amp; collaboration with AI</li> <li>•Intentionality of human use &amp; collaboration with AI is important, instead of separate human/AI roles</li> <li>•Acknowledges our reality in a post-digital society</li> <li>•Treats literacies as interconnected &amp; fluid, rather than mutually exclusive</li> </ul>	<ul style="list-style-type: none"> <li>•Deliberately incorporates ethical &amp; pedagogical literacy</li> <li>•Centres human centered values</li> <li>•Differentiates novice, intermediate, &amp; advanced objectives within each literacy domain</li> <li>•Positions ethical literacy as a foundational component</li> </ul>	<ul style="list-style-type: none"> <li>•Model's simplicity makes it accessible, particularly for early AI adopters &amp; learners</li> <li>•Emphasizes human-centeredness as an integral part of the framework</li> <li>•The hierarchical structure, while not strictly stages, helps users identify their current level of AI understanding</li> </ul>	<ul style="list-style-type: none"> <li>•Provides specific teaching &amp; learning guidelines for educators, students, researchers, &amp; administrators</li> <li>•Emphasizes an ethical focus &amp; consideration of the diverse needs of users within post-secondary, making supports more tailored &amp; effective</li> </ul>
<b>Challenges</b>	<ul style="list-style-type: none"> <li>•Heavily focused on literacy; although multiple facets are embedded within each literacy foundation, it may overlook aspects emphasized in other frameworks (e.g., ethics)</li> </ul>	<ul style="list-style-type: none"> <li>•Critical literacy is not explicitly identified; while it may be embedded within other literacies, its absence may be a concern for some</li> <li>•Literacy objectives lack clear guidance for administrators/researchers, appearing more focused on students &amp; educators</li> </ul>	<ul style="list-style-type: none"> <li>•Part of inspiration is from an outdated pedagogical framework (Bloom's Taxonomy)</li> <li>•May lack the educational depth needed for more intermediate &amp; advanced users</li> <li>•The visual presentation, while not staged in its application, may be too linear to capture nuance</li> </ul>	<ul style="list-style-type: none"> <li>•More focused on principles than a visual framework, which may make interpretation &amp; integration of principles challenging</li> <li>•Literacy functions not clearly delineated, &amp; are all grouped under a broad literacy category</li> </ul>

