

## GAI & Course Design: Policies & Practices

- [GAI & Teaching & Learning in Higher Ed](#)
- [Impacts of GAI on Residential Education](#)
- [Reconsidering your Learning Outcomes](#)
- [Redesigning your Assessments & Classroom Practices](#)
  - [AI-Aware Makeovers](#)
- [Articulating your AI-use Policy](#)
- [AI Decision Tree](#)
- [Additional Resources](#)

### GAI & Teaching & Learning in Higher Ed

What <b>INSTRUCTORS</b> should know/do	What <b>STUDENTS</b> should know/DO
<ul style="list-style-type: none"> <li>● AI is ubiquitous - students are using it, and are likely to use it in your course.</li> </ul>	<ul style="list-style-type: none"> <li>● Just because you can use GAI for an assignment, or other coursework doesn't mean you should,</li> </ul>
<ul style="list-style-type: none"> <li>● <a href="#">There is no way to reliably detect its use.</a></li> </ul>	<ul style="list-style-type: none"> <li>● Your use of GAI may raise an instructor's suspicions.</li> </ul>
<ul style="list-style-type: none"> <li>● <a href="#">Create and communicate a clear, explicit acceptable use policy.</a></li> <li>● Provide a rationale for the policy.</li> <li>● Stress student learning.</li> <li>● Build a community of learners.</li> </ul>	<ul style="list-style-type: none"> <li>● Understand your instructor's AI use policy.</li> <li>● Ask questions about the policy if you are unsure.</li> <li>● (MIT does not have one, single AI-use policy - don't assume that the policy in all of your subjects will be the same).</li> </ul>
<ul style="list-style-type: none"> <li>● Communicate and discuss your GAI policy with your colleagues.</li> <li>● Consider creating a baseline, department or program policy.</li> </ul>	
<ul style="list-style-type: none"> <li>● Critically examine your learning goals and assessments of student learning.                             <ul style="list-style-type: none"> <li>○ Are your goals for learning still relevant</li> <li>○ <a href="#">Are your assessments AI-Aware?</a></li> <li>○ Might the use of AI allow you to achieve higher-order, more advanced goals?</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Take time to read and understand the learning goals for the course.</li> </ul>

<ul style="list-style-type: none"> <li>● Convey to students <i>why</i> you have chosen the particular learning goals for the course.</li> <li>● Why is it important that students achieve these goals?</li> </ul>	<ul style="list-style-type: none"> <li>● Using AI to do the work only shortcuts your learning and may prevent you from achieving the course goals.</li> </ul>
<ul style="list-style-type: none"> <li>● Communicate the value and importance of your assignments and assessments. <ul style="list-style-type: none"> <li>○ Let students know why you have chosen each of the assignments.</li> <li>○ Be explicit about what students should learn by engaging with each assignment (and how it measures their achievement of particular learning outcomes.</li> <li>○ If applicable, tell students why you are asking them not to use GAI (or why you are asking them to use GAI in a particular way.</li> <li>○ Let them know <a href="#">what they will lose if they use AI for their work.</a></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Just because AI can complete an assignment doesn't mean you shouldn't do it yourself.</li> <li>● What are you learning or not learning through your use of GAI? Be honest with yourself.</li> </ul>
	<ul style="list-style-type: none"> <li>● Critically evaluate <i>all</i> AI output.</li> <li>● Be a savvy user - don't be fooled by AI's rapid responses and built-in certainty.</li> <li>● How do you know the output is accurate, complete, and acceptable?</li> </ul>

# Impacts of GAI on Residential Higher Ed

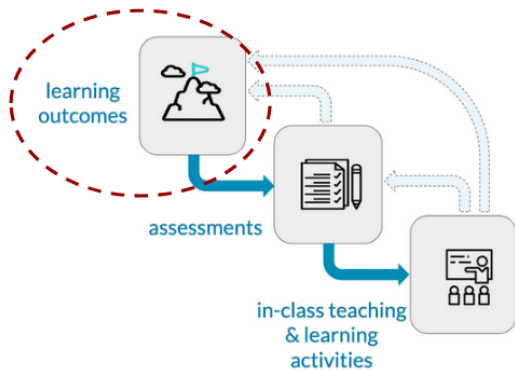


J. Rankin, 2025 | [Link to Mural](#)

[1] Mollick & Mollick: [Using AI to Implement Effective Teaching Strategies in Classrooms: Five Strategies](#),

[2] [Including Prompts \(2023\)](#); [Eric Hudson - Learning on](#)

## Reconsidering your Learning Outcomes



GenAI **reinforces** the importance of an **intentional, learner-centered course design** approach

*Wiggins & McTighe, Understanding by Design*

*How does the availability of LLMs/GAI impact your goals for student learning and the assignments you use to measure student achievement of those goals?*

For more info on creating Learning Outcomes - see [TLL's page on Backward Design](#), & refer to the [Bloom's Taxonomy](#) table, on p.6.

<b>A</b>	<b>B</b>
<ul style="list-style-type: none"> <li>• AI does not impact them at all.</li> <li>• AI is not useful in completion of assignments</li> </ul>	<ul style="list-style-type: none"> <li>• AI can achieve the course goals</li> <li>• AI can complete or partially complete some assignments</li> </ul>

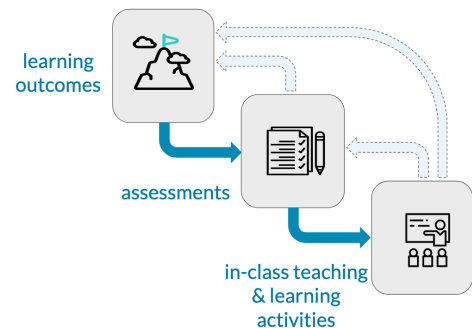
## Redesigning your Assessments & Classroom Practices

RE your outcomes for learning (goals):

If A - you are all set!

If B: You have 3 choices:

1. Change your course goals so that they are in the "A" category and change your assignments to align with your new goals
2. Keep your goals but [change your assignments](#)
3. Keep your goals AND your assignments



## Bloom's Taxonomy Taxonomy of educational objectives for the Cognitive Domain

Cognitive Domain	Selection of active verbs for learning outcomes	Asks Students
<b>REMEMBER</b> <b>Knowledge</b> – ability to recall previously learned material, know specific facts/ methods/ procedures, know basic concepts/principles.	define, label, recall, order, list, quote, match, state, recognize, identify, recite	<i>Who, what, when, where, how? How do you define?</i>
<b>UNDERSTAND</b> <b>Comprehension</b> – ability to explain and contextualize the meaning of material, interpret charts/graphs, estimate future consequences implied in the data.	describe, discuss, summarize, paraphrase, report, review, explain	<i>How would you paraphrase? What are the main ideas? How would you summarize? Provide examples of.....</i>
<b>APPLY</b> <b>Application</b> – ability to use learned information in new situations/problem solving/ solutions that have 'best answers', demonstrate correct usage of procedures, apply laws/theories to practical situations.	assess, demonstrate, examine, distinguish, establish, show, report, implement, determine, produce, solve, draw,interpret, provide, use, utilize, write	<i>How is x an example of y? How is xx related to yy? Why is xx significant?</i>
<b>ANALYZE</b> <b>Analysis</b> – ability to identify component parts of knowledge, to explain its structure and composition, recognise logical fallacies in reasoning, make distinctions between facts and inferences.	analyze, illustrate, discriminate, differentiate, distinguish, examine, question, infer, support, prove, test, experiment, categorize, write	<i>What are the parts/features of xx? Classify according to .....? Outline/diagram How does xx compare /contrast with ? What evidence is there for?</i>
<b>EVALUATE</b> <b>Evaluation</b> – ability to judge the value of evidence/material for a given purpose.	appraise, criticize, assess, argue, justify, defend, interpret, support, estimate, evaluate, critique, review, write	<i>Do you agree that...? What do you think about...? What is the most important...? Prioritize &amp; give rationale for... Provide criteria for assessing...</i>
<b>CREATE</b> <b>Synthesis</b> - ability to creatively apply knowledge to new areas, integrate new knowledge, write well argued paper/speech, propose research design to a test hypothesis.	Compile, categorize, generate, negotiate, reconstruct, write, reorganize, revise, validate, organize, plan, propose, set up, substitute, initiate, express, compare, modify, design, create, build, devise, integrate	<i>What would you infer/predict from ..? What ideas can you add to ? How would you create/design? What might happen if you ?What solutions would you suggest..?</i>

Benjamin S. Bloom & David R. Krathwohl. (1956). Taxonomy of educational objectives: The classification of educational goals, by a committee of college and university examiners. Handbook 1: Cognitive domain. New York, Longmans.

# A POST-AI LEARNING TAXONOMY



Dr Philippa Hardman  
LinkedIn Top Voice, AI + Education

1	<b>ANALYSE</b>	Ability to critically analyse information, including AI outputs, by identifying sources, biases, errors etc.	Validate, test, check, assess, measure.
2	<b>UNDERSTAND</b>	Ability to understand key concepts, in part by guiding AI to produce reliable & accurate explanations, descriptions & visualisations.	Compare, discuss, explain, summarise, illustrate.
3	<b>APPLY</b>	Ability to apply concepts in practical scenarios, including the completion of AI conversations, simulations etc.	Practice, implement, execute, demonstrate, solve, simulate, model.
4	<b>CREATE</b>	Ability to use a range of tools, including AI, to develop innovative & original ways to solve problems & exploit new opportunities.	Build, design, create, generate, formulate.
5	<b>COLLABORATE</b>	Ability to partner & communicate effectively with others, including AI, to achieve high quality outcomes.	Interact, partner, co-create, delegate, manage, collaborate.
6	<b>DISRUPT</b>	Ability to innovate radically, using AI to inspire new inventions, disrupt established systems & generate new solutions to wicked, complex problems.	Reimagine, invent, disrupt, rethink, extend, transform, innovate.

Dr. Philippa Hardman

<https://substack.com/home/post/p-149753103>

**Choose assessments that support & make visible students' achievement of your ILOs**

<i>Each learning outcome → should be associated with at least 1 assessment.</i> ↓	<b>Intended Learning Outcome 1</b>	<b>Intended Learning Outcome 2</b>	<b>Intended Learning Outcome 3</b>	<b>Intended Learning Outcome 4</b>
<b>Assessment A</b>				
<b>Assessment B</b>				
<b>Assessment C</b>				
<b>Assessment D</b>				

# Bloom's Taxonomy Revisited

Use this table as a reference for evaluating and making changes to aligned course activities and assessments (or, where possible, learning outcomes) that account for generative Artificial Intelligence (AI) tool capabilities and distinctive human skills.

All course activities and assessments will benefit from **review** given the capabilities of AI tools; those at the **Remember** and **Analyze** levels may be more likely to need **amendment**.



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	RECOMMENDATION	AI CAPABILITIES	DISTINCTIVE HUMAN SKILLS
<b>CREATE</b>	Review	Suggest a range of alternatives, enumerate potential drawbacks and advantages, describe successful real-world cases	Formulate original solutions incorporating human judgement, collaborate spontaneously
<b>EVALUATE</b>	Review	Identify pros and cons of various courses of action, develop rubrics	Engage in metacognitive reflection, holistically appraise ethical consequences of alternative courses of action
<b>ANALYZE</b>	Amend	Compare and contrast data, infer trends and themes, compute, predict	Critically think and reason within the cognitive and affective domains, interpret and relate to authentic problems, decisions, & choices
<b>APPLY</b>	Review	Make use of a process, model, or method to illustrate how to solve a quantitative inquiry	Operate, implement, conduct, execute, experiment, and test in the real world; apply creativity and imagination to idea & solution development
<b>UNDERSTAND</b>	Review	Describe a concept in different words, recognize a related example, translate	Contextualize answers within emotional, moral, or ethical considerations
<b>REMEMBER</b>	Amend	Recall factual information, list possible answers, define a term, construct a basic chronology	Recall information in situations where technology is not readily accessible



## GAI-Aware Assignment Make-overs

Writing-specific examples are from Annette Vee's post, [AI Aware Teaching Examples](#), in *AI & How We Teach Writing*.

For additional implementation ideas, see: TLL's page: [AI-Implementation: Examples](#).

Assignment	Why this Assignment?	AI Resistant Modification	AI Leveraged Modification
<b>Writing - Intensive Courses</b>			
<p><b>Annotated bibliography</b></p> <p>[AI can do this]</p>	<p>Provides practice finding and evaluating sources;</p> <p>Prepares students for a project that uses sources to make an argument.</p>	<p>Construct an <a href="#">I-Search</a> narrative about their research process, describing why they chose a topic, how they began their search, who they talked to, what threads they followed and why, what questions remain for them, etc.</p> <p>Ask students to prepare for research by making a list of what they don't know about a topic, what they want to know, and what they can't know about a topic. You could ask students to begin that list in class, minimizing distractions and temptations of AI.</p>	<p>Pose research question to an LLM - w/specified prompt characteristics &amp; constraints, then ask students to evaluate sources for: quality, veracity, completeness, etc</p>
<p><b>Reading response</b></p> <p>[AI can do this]</p>	<p>Holds students accountable for doing their assigned reading;</p> <p>Allows students to interact /work with each other;</p> <p>Motivates prep for a discussion in class.</p>	<p>De-emphasize the written product and shift the work to in-class creation and discussion.</p> <p><a href="#">The Paranoid memorandum</a> (Jason Crider, Texas)</p> <p>Ask students to break into groups to work on a brief writing assignment - with a detailed, specific prompt.</p> <p>Each group is given an instruction to</p>	<p>Have students interact with a text using AI <i>before</i> assigning it.</p> <p>Let students know they'll be working with a particular text in class, but tell them not to read it yet.</p> <p>In class, give students ~10 minutes to ask an AI anything they want to know about the text: a summary, which texts or debates it engages with, how it connects to concepts in class, etc.</p>

		<p>either use AI or not use AI in completing the assignment. Groups then share their work with the entire class and guess whether each group used AI or not.</p> <p>The trick is that all of the groups are assigned to not use AI (only works once)</p> <p><i>N.b.</i>, Crider's acceptable use policy is shared at the link above.</p>	<p>Then, run a discussion about what they learned about the text, and what further questions they have.</p> <p>Finally, assign students to read the text themselves prior to the next class' discussion of the text.. See, Matt Burton's <a href="#">Writing Machines Syllabus</a></p>
<p><b>Reflections</b> [AI can do this]</p>	<p>Encourages students to make personal connections in their writing;</p> <p>Fosters metacognition re insights and frustrations in the writing /thinking process.</p>	<p>In class, have students annotate their own work or do pen-and-paper brainstorming: How they feel when writing this assignment; What challenges they encountered; What they learned.</p> <p>Alternatively, have students interview each other about their approach to the assignment.</p>	<p>Have students do a human vs. machine contest, where they try to make the most human reflection using AI, then test it out on each other. Which part was done by AI? How can they tell? What did they learn from this exercise and what didn't they learn?</p>
<b>STEM Courses</b>			
<p><b>Problem sets</b> [AI can do these]</p>	<p>Repeated opportunities to solve challenging problems help to build students' understanding of material and general problem solving skills</p>	<p>Option 1 - Provide time for students to begin the problem set in class, without access to GAI/web resources.</p> <p>Have students reflect on difficulties</p> <p>Address student questions/errors <i>in situ</i>.</p>	<p>Remove in-class work on pset Tell students they may use AI, and require them to evaluate responses/use.</p> <p>Use weekly in-class quizzes to ensure that students are engaging with material.</p>

		<p>Document student progress.</p> <p>Allow them to complete work at home with access to the web.</p> <p>Ask students to reflect on/report how if/they used AI</p> <p>Use weekly in-class quizzes to ensure that students are engaging with material.</p>	
<b><i>Solution/ Example Analysis</i></b>	Students need to learn how to critically review examples and solutions (from texts or elsewhere).	Present students with problem solutions that have varying types of errors (logic, numeric, etc.). It's preferable if the errors result from common misconceptions. Ask students to work through these: first on their own, then in groups. The Jigsaw format works well. Debrief to expose common misconceptions.	<p>For one of the problem set questions (or another question) ask students to use GAI to produce a solution. Then have them critically evaluate the answer.</p> <p>Students must explain their assessment of the accuracy of the problem - and include any prompts they used.</p>
<b>Computer Programming / Coding</b>			
<b><i>Pseudo-code</i></b>	<p>Helps students learn to clearly articulate what they want their code to accomplish.</p> <p>May help students to create more efficient code</p>	<p>Provide a prompt for a small piece of code and ask students to draft pseudo-code in class (w/out GAI).</p> <p>Have students pair up and read/provide feedback on partners' code. Is it correct? Can it be optimized?</p>	<p>In class or as HW, ask students to input their optimized pseudo code into an LLM.</p> <p>Ask students to evaluate the code generated, and iterate on the prompt (or edit the LLM output). Require that students submit all interactions with the LLM.</p>

[AI Assessment Scale \(Updated\)](#), Leon Furze

<b>1</b>	<b>NO AI</b>	<p>The assessment is completed entirely without AI assistance in a controlled environment, ensuring that students rely solely on their existing knowledge, understanding, and skills</p> <p><b>You must not use AI at any point during the assessment. You must demonstrate your core skills and knowledge.</b></p>
<b>2</b>	<b>AI PLANNING</b>	<p>AI may be used for pre-task activities such as brainstorming, outlining and initial research. This level focuses on the effective use of AI for planning, synthesis, and ideation, but assessments should emphasise the ability to develop and refine these ideas independently.</p> <p><b>You may use AI for planning, idea development, and research. Your final submission should show how you have developed and refined these ideas.</b></p>
<b>3</b>	<b>AI COLLABORATION</b>	<p>AI may be used to help complete the task, including idea generation, drafting, feedback, and refinement. Students should critically evaluate and modify the AI suggested outputs, demonstrating their understanding.</p> <p><b>You may use AI to assist with specific tasks such as drafting text, refining and evaluating your work. You must critically evaluate and modify any AI-generated content you use.</b></p>
<b>4</b>	<b>FULL AI</b>	<p>AI may be used to complete any elements of the task, with students directing AI to achieve the assessment goals. Assessments at this level may also require engagement with AI to achieve goals and solve problems.</p> <p><b>You may use AI extensively throughout your work either as you wish, or as specifically directed in your assessment. Focus on directing AI to achieve your goals while demonstrating your critical thinking.</b></p>
<b>5</b>	<b>AI EXPLORATION</b>	<p>AI is used creatively to enhance problem-solving, generate novel insights, or develop innovative solutions to solve problems. Students and educators co-design assessments to explore unique AI applications within the field of study.</p> <p><b>You should use AI creatively to solve the task, potentially co-designing new approaches with your instructor.</b></p>



## Articulating your AI-use Policy

Articulate your policy, your rationale and expectations/consequences. Consider [the state of AI detection software](#).

### Tips for an Effective AI Syllabus Policy

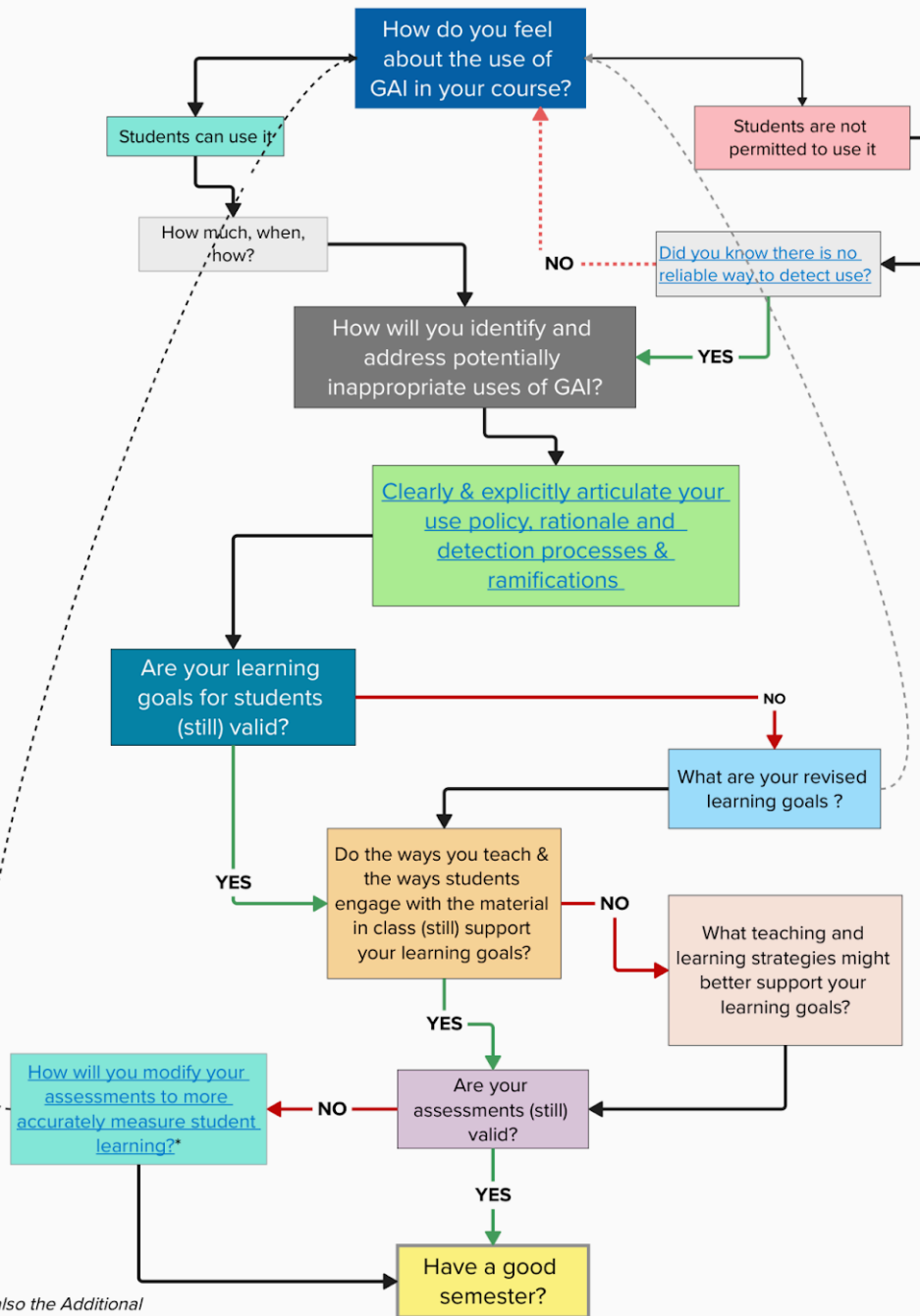
1. If AI is prohibited or required, explain why.
2. Connect AI use to something familiar (e.g., getting help from a friend or tutor).
3. Provide examples of acceptable and/or unacceptable use.
4. Acknowledge ethical issues such as data privacy, bias, inaccuracy, intellectual property violations, environmental impact, etc.
5. Note your AI documentation and citation requirements. This might include screenshots, transcripts, documents with “track changes” enabled, and/or relevant citation or disclosure guidelines:
  - [APA AI citations guidelines](#)
  - [MLA AI citation guidelines](#)
  - [AI Disclosure Framework](#)
6. Explain how misuse will be addressed.
7. Encourage students to ask questions if your policy is unclear.

After, [Daniel Stanford: The Best AI Syllabus Policies I've Seen So Far](#)

See also Marc Watkins [Stoplight Approach](#) and his [Invitation Approach](#) to AI Use in his courses.

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# GAI Decision Tree



\*See also the Additional Resources section of TLL's [Generative AI and Your Course page](#)



## Additional Resources

For resources on AI Detection tools, see [this document](#) from TLL

For resources on redesigning assignments to make them more “AI aware”, see the Additional Resources section of TLL’s [Generative AI and Your Course page](#)

For examples of [AI aware assignment makeovers](#) see this page from TLL