

# Approaches to Generative AI and Teaching

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## Guiding Principles on Generative Artificial Intelligence (AI)

- **Generative AI is here to stay.** Students are already using Generative AI in everyday tools and platforms, and most students will be expected to use them in the workplace.
- **We need to adapt.** It's now incumbent on us as faculty to decide how generative AI fits within our courses and learning objectives.
- **Institutional support is essential.** CU Denver and CLAS need to invest in professional development for faculty and staff and ongoing training on Generative AI.
- **We need policies and governance.** In the spirit of shared governance, administrators need to work with faculty to clearly articulate policies and governance strategies for the use and application of generative AI in research, teaching, and service.
- **Access, equity, and privacy must remain central.** Every effort should be made to ensure equal access to tools, equity in our policies and practices, and privacy protections against surveillance.
- **AI literacy is a core skill.** Understanding AI tools, including identifying, developing, and deploying [trustworthy AI](#), is increasingly crucial for making informed decisions and engaging in societal discussions about technology's role and regulation.
- **[“Keep humans at the helm.”](#)** People should ultimately take responsibility for the use of Generative AI, reviewing its decisions and verifying information, and ensuring it meets standards of ethical use.

With this framework in mind, we have outlined three potential approaches to Generative AI for faculty to take in the classroom: **Restrictive**, **Selective**, and **Required**. This document will help you choose an approach that best fits your course and articulate that policy to your students. We also offer suggestions for how to talk with students about your Generative AI policies and uphold principles and practices of academic integrity, including strategies for helping students prove they are adhering to your policies.

## Which approach to Generative AI in the classroom is right for me?

Approach	Pros	Cons
<p><b><u>Restrictive</u></b></p> <p><i>Restrict <b>most</b> or <b>all</b> student uses of generative AI</i></p>	<ul style="list-style-type: none"> <li>● Intends to limit plagiarism and academic dishonesty</li> <li>● Aims to ensure student competency in core skills (e.g. writing, critical thinking, writing code, etc.)</li> <li>● Prepares students for tests, licensures, or other professional activities that restrict generative AI (e.g. GRE or LSAT exams, job interviews, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>● Detection software alone is ineffective and has potential issues with student privacy</li> <li>● Labor-intensive to enforce restrictions</li> <li>● Potential for biased or unfair enforcement</li> <li>● Does not give students experience or training in an increasingly important educational and workplace tool</li> <li>● May require rethinking assessment and curriculum (ex. in-person, hand-written exams)</li> </ul>
<p><b><u>Selective</u></b></p> <p><i>Allow <b>some</b> student uses of generative AI, with <b>limitations</b> and <b>guidance</b> (e.g. on <b>specific</b> assignments, with <b>clear</b> documentation of its use, etc.)</i></p>	<ul style="list-style-type: none"> <li>● Flexibility to allow/disallow generative AI when it enhances particular learning goals, assignments, etc.</li> <li>● Students gain experience using and citing a potentially useful educational and workplace tool</li> <li>● Potential to productively engage with these tools in critical and ethical ways</li> </ul>	<ul style="list-style-type: none"> <li>● Higher learning curve for faculty to familiarize themselves with generative AI tools</li> <li>● Time investment for rethinking outcomes, assignments, and assessment to account for AI use</li> <li>● Requires instructing students how to identify and use trustworthy AI</li> <li>● Difficult to enforce limitations of AI use</li> <li>● Navigating potential ethical and regulatory issues of generative AI (ex. unequal access to paid tools, student privacy, intellectual property, etc.)</li> <li>● Students who choose not to use the tool may be at a disadvantage</li> <li>● A focus on generative AI may take attention and time away from core skills and competencies (e.g. writing, defining concepts, writing code, etc.)</li> </ul>
<p><b><u>Required</u></b></p> <p><i>Student use of generative AI is <b>required</b> for <b>aspects</b> of the course</i></p>	<ul style="list-style-type: none"> <li>● Students gain expertise in a useful educational and workplace tool</li> <li>● Faculty instruction in AI is grounded in discipline-specific content areas and applications</li> <li>● AI is applied to enhance specific learning outcomes</li> </ul>	<ul style="list-style-type: none"> <li>● Time investment for faculty to become a specialist in Generative AI within their content area</li> <li>● Time investment for rethinking outcomes, assignments, and assessment to incorporate AI use</li> <li>● Requires instructing students how to identify and use trustworthy AI</li> <li>● Rethinking assessment of generative AI skills</li> <li>● Navigating potential ethical and regulatory issues of generative AI (ex. unequal access to paid tools, student privacy, intellectual property, etc.)</li> </ul>

## Restrictive Approach

*Restrict most or all student uses of Generative AI*

The decision to ban or heavily restrict the use of Generative AI needs to be rooted in a course's particular learning objectives. One common reason might be that Generative AI would keep students from learning a foundational body of knowledge or skills. For example, a language course depends on students practicing how to read or speak an unfamiliar language, and using Generative AI to immediately translate text keeps them from developing those skills.

**Regardless, you need to explicitly explain your pedagogical reasons to your students and the consequences of using AI without authorization.**

**Note:** there is no reliable way to detect the use of AI, so enforcement is difficult. You will want to consider whether Generative AI needs to be restricted across a variety of classroom contexts, which can include:





- Composing original content for assignments (writing, audio, images, video, etc.)
- Getting answers for assignments
- Writing Canvas discussion posts
- Taking notes
- Editing tools (grammar and proofreading)
- Brainstorming ideas
- Translating texts
- Summarizing readings
- Generating outlines
- Email or other course-related communications
- Generating practice questions for quizzes
- Explaining course concepts or getting background information
- As a research tool for locating sources

### **Sample Syllabus Statement**

#### **Use of Generative Artificial Intelligence (AI):**

Any student work in this course that is written, developed, or created with or by generative artificial intelligence (Generative AI), such as ChatGPT, outside of permitted uses listed in the course syllabus, is considered unauthorized assistance under the University's Academic Integrity policy. Student use of this technology does not support this course's learning goals and outcomes because of the following reasons: *[Note to instructor: insert specific language on your course's learning goals and outcomes.]*

The following is a list of permitted and not permitted uses of AI in this course. Note that this list is not meant to be comprehensive; if you have questions about what is and is not permissible, it is your responsibility to contact me for clarification. *[Note to instructor: the following table is just an example - make additions or changes to align with your course's learning goals and outcomes.]*

 <b>Permitted Uses of AI</b> 	 <b>Not Permitted Uses of AI</b> 
<ul style="list-style-type: none"> <li>- Generating practice questions for quizzes</li> <li>- Explaining course concepts or getting background information</li> <li>- Brainstorming ideas</li> </ul>	<ul style="list-style-type: none"> <li>- Composing original content for assignments (writing, audio, images, video, etc.)</li> <li>- Getting answers for assignments</li> <li>- Writing Canvas discussion posts</li> <li>- Taking notes</li> <li>- Editing tools (grammar and proofreading)</li> <li>- Translating texts</li> <li>- Summarizing readings</li> <li>- Generating outlines</li> <li>- Email or other course-related communications</li> <li>- As a research tool for locating sources</li> </ul>

If I have reasonable evidence that a student has used AI in an unauthorized way, it is the student's responsibility to prove otherwise. I will determine penalties for violations on a case-by-case basis, which may result in a student failing an assignment, failing the course, or being reported to the CU Denver Office of Student Conduct.

## Selective Approach

*Allow some student uses of generative AI, with limitations and guidance (e.g. on specific assignments, with clear documentation of its use, etc.)*

This policy acknowledges that many uses of Generative AI may advance the course's learning goals and be beneficial for students' professional skill development, while also restricting its use in specific cases that might hinder learning. For example, an instructor teaching a public policy course might have students write a policy brief in which they are allowed to use ChatGPT to brainstorm topic ideas, but *not* use ChatGPT to write the brief itself. This is because the ability to craft a policy brief is an essential skill for public policy professionals and writing itself is a [High Impact Practice \(HIP\)](#). **Regardless, you need to explicitly explain your pedagogical reasons to your students for your decisions.**

You will want to consider whether Generative AI is allowed or restricted across a variety of classroom contexts, as well as when or how students should document its use (ex. via a link to a chat transcript or student reflection). These contexts might include:

- Composing original content for assignments (writing, audio, images, video, etc.)
- Getting answers for assignments
- Writing Canvas discussion posts
- Taking notes
- Editing tools (grammar and proofreading)
- Brainstorming ideas
- Translating texts
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- Email or other course-related communications
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- As a research tool for locating sources

### Sample Syllabus Statement

#### **Use of Generative Artificial Intelligence (AI):**

Any student work in this course that is written, developed, or created with or by generative artificial intelligence (Generative AI), such as ChatGPT, outside of permitted uses listed in the course syllabus, is considered unauthorized assistance under the University's Academic Integrity policy. Student use of this technology does not support this course's learning goals and outcomes

because of the following reasons: *[Note to instructor: insert specific language on your course's learning goals and outcomes.]*

The following is a list of permitted and not permitted uses of AI in this course. Note that this list is not meant to be comprehensive; if you have questions about what is and is not permissible, it is your responsibility to contact me for clarification. *[Note to instructor: the following table is just an example - make additions or changes to align with your course's learning goals and outcomes.]*

<b>✔ Permitted Uses of AI ✔</b>	<b>⊘ Not Permitted Uses of AI ⊘</b>
<ul style="list-style-type: none"><li>- Generating practice questions for quizzes</li><li>- Explaining course concepts or getting background information</li><li>- Brainstorming ideas</li><li>- Generating outlines</li><li>- Taking notes</li><li>- Editing tools (grammar and proofreading)</li><li>- Translating texts</li><li>- As a research tool for locating sources</li></ul>	<ul style="list-style-type: none"><li>- Composing original content for assignments (writing, audio, images, video, etc.)</li><li>- Getting answers for assignments</li><li>- Writing Canvas discussion posts</li><li>- Summarizing readings</li><li>- Email or other course-related communications</li></ul>

If I have reasonable evidence that a student has used AI in an unauthorized way, it is the student's responsibility to prove otherwise. I will determine penalties for violations on a case-by-case basis, which may result in a student failing an assignment, failing the course, or being reported to the CU Denver Office of Student Conduct.

## Required Approach

*Student use of Generative AI is required for aspects of the course*

This policy requires students to use Generative AI in order to advance discipline-specific learning outcomes of a course. Under this approach, the instructor dedicates significant time to teaching students how to effectively and responsibly use Generative AI for specific assignments or activities. For example, in an introductory programming course the instructor teaches students prompt engineering techniques and requires the use of ChatGPT to help them write and debug their code. Students then submit chat transcripts and reflect on how their use of the tool helped or hindered the process of learning core programming concepts. Through this, students gain an understanding of the affordances and constraints of using AI tools for programming.







You will want to consider the degree to which Generative AI is required across a variety of classroom contexts, as well as when or how students should document its use. **Regardless, you need to explicitly explain your pedagogical reasons to your students for your decisions.**

### Sample Syllabus Statement

#### **Use of Generative Artificial Intelligence (AI):**

Generative Artificial Intelligence (Generative AI), such as ChatGPT, is an increasingly central tool for learning and professional development. *[Note to instructor: insert specific language on how Generative AI advances your course's learning goals and outcomes.]* Therefore you will be receiving instruction and guidelines on how to use these tools for specific assignments and activities in this course. When indicated, I will grade assignments based on my assessment of your ability to harness these tools. In all cases, you are responsible for the accuracy and integrity of your work.

The following is a list of required, permitted, and not permitted uses of AI in this course. Note that this list is not meant to be comprehensive; if you have questions, it is your responsibility to contact me for clarification. *[Note to instructor: fill in the following table with specific uses that align with your course's learning goals and outcomes.]*

 <b>Required Uses of AI</b> 	 <b>Permitted Uses of AI</b> 	 <b>Not Permitted Uses of AI</b> 



Any student work in this course that is written, developed, or created with or by Generative AI outside of permitted uses listed in the course syllabus is considered unauthorized assistance under the University's Academic Integrity policy. If I have reasonable evidence that a student has used AI in an unauthorized way, it is the student's responsibility to prove otherwise. I will determine penalties for violations on a case-by-case basis, which may result in a student failing an assignment, failing the course, or being reported to the CU Denver Office of Student Conduct.

## How to Talk to Students about Your Approach

Regardless of your approach to Generative AI, we recommend that you dedicate time at the beginning of the semester to discuss it with students. Here are some example discussion questions to help facilitate a conversation around Generative AI. Select any of the following and tailor them to your particular course's learning goals:

- How, if at all, have you used Generative Artificial Intelligence (AI) outside of this course?
- What is one example of when Generative AI *improved* your learning experience in a class and one example when it *hurt* that experience?
- Can you think of any potential concerns, limitations, or ethical issues that come with using Generative AI in your coursework?
- Do you think the use of Generative AI inhibits the development of *[Note to faculty: insert specific learning goal from your course]*? Or do you think that Generative AI can enhance and augment it? Can you think of examples of both of these possibilities?
- What steps can you take to check that the information and answers produced by Generative AI are accurate or credible? Whose responsibility is it to ensure credibility?
- Do you think the instructor should use Generative AI to create assignments or grade student work in this class? Why or why not?
- Should Generative AI be used to write online discussion posts or responses to peers and instructors? Why or why not?
- **Read this course's policy on Generative AI. What questions does this policy raise for you? What clarifications do you need?**

## Navigating Academic Integrity and Generative AI

One common concern from instructors and students alike has to do with how Generative AI aligns with principles of academic integrity. CLAS requires all faculty to include language in their syllabi defining academic integrity, penalties, and allowable resources. [CU Denver's Academic Integrity Policy](#) (Policy 7050) encompasses unauthorized use of Generative AI:

*Academic integrity standards assist in promoting an academically sound, fair, and respectful community.*

*In particular, students must refrain from academic misconduct, defined as (1) a student's use of unauthorized assistance with intent to deceive an instructor or other person who is assigned to evaluate the student's work in meeting course and degree requirements, or (2) actions that interfere with the ability of the instructor to fairly judge the work of the student or other students.*

To help students understand what is “unauthorized assistance” when it comes to Generative AI, **acceptable student use of Generative AI should always be explicitly articulated by individual faculty members in their syllabus.** The allowable and appropriate use of Generative AI is, in all cases, determined by faculty.

One major challenge when it comes to issues of academic integrity and Generative AI is that **there is no reliable tool or software to detect its use.** It is necessary, then, to employ other best practices of teaching and learning that: 1) deter unauthorized use by students (as defined by an instructor), and 2) empower students to prove they did not violate a course's AI policy. Some of these strategies include:

- **Process Documentation:** Encourage students to document their writing or problem-solving process, including showing all of their work, outlines, drafts, and brainstorming notes. This documentation can show the development of their work over time. For example, a student might write a paper in Google Docs and make the revision history available to the instructor.
- **Reflective Commentary:** Ask students to include a brief reflective commentary explaining their approach, challenges faced, and decisions made during the assignment, demonstrating their personal engagement with the material. This might include a link to a transcript of their chat with particular prompts and responses highlighted.
- **Oral Defense:** Implement oral defenses or presentations where students explain their work, answer questions, and discuss their research or problem-solving process in detail. This might be an actual assignment or simply a method you use when working individually with students to address potential academic integrity violations.

- **Disclosure Statements:** Require students to document their use of Generative AI through a formal disclosure statement that acknowledges the tool as a source, gives the student credit for the original work that they did, and reflects on the benefits and limitations of the tool. This might include a student summarizing how they used a particular tool along with a link to the transcript of their chat.

## Next Steps

- Review your syllabi, incorporate the appropriate AI policy, and plan to talk to your students about your approach.
- Learn more. CU Denver's Division for Teaching Innovation and Program Strategies (TIPS) has developed a [curated list](#) of resources related to the basics of Generative AI and how it works, approved AI tools offered at CU Denver, and more. You can also attend [scheduled workshops and trainings](#) from TIPS or [sign up for an individual consultation](#).
- Stay up to date on current developments. Two newsletters might help with this: [The Algorithm](#) (MIT Technology Review) and [One Useful Thing](#) (by Ethan Mollick).
- Advocate at the departmental, college, and campus level for equitable policies, practices, and support related to AI.