AI Adventures: Navigating Generative AI in Your Classroom

THE INSTITUTE FOR LEARNING AND TEACHING
COLORADO STATE UNIVERSITY

Learning Outcomes

- Understand the basic concepts and principles of generative AI.
- Identify various generative AI tools and their potential applications in education with emphasis on MS Copilot.
- Recognize the importance of Communicating with students re: AI and its appropriate use
- Learn what an AI Use Agreement is and create one for your syllabus
- Explore initial ways to integrate AI into teaching practices.

THE INSTITUTE FOR LEARNING AND TEACHING
COLORADO STATE UNIVERSITY

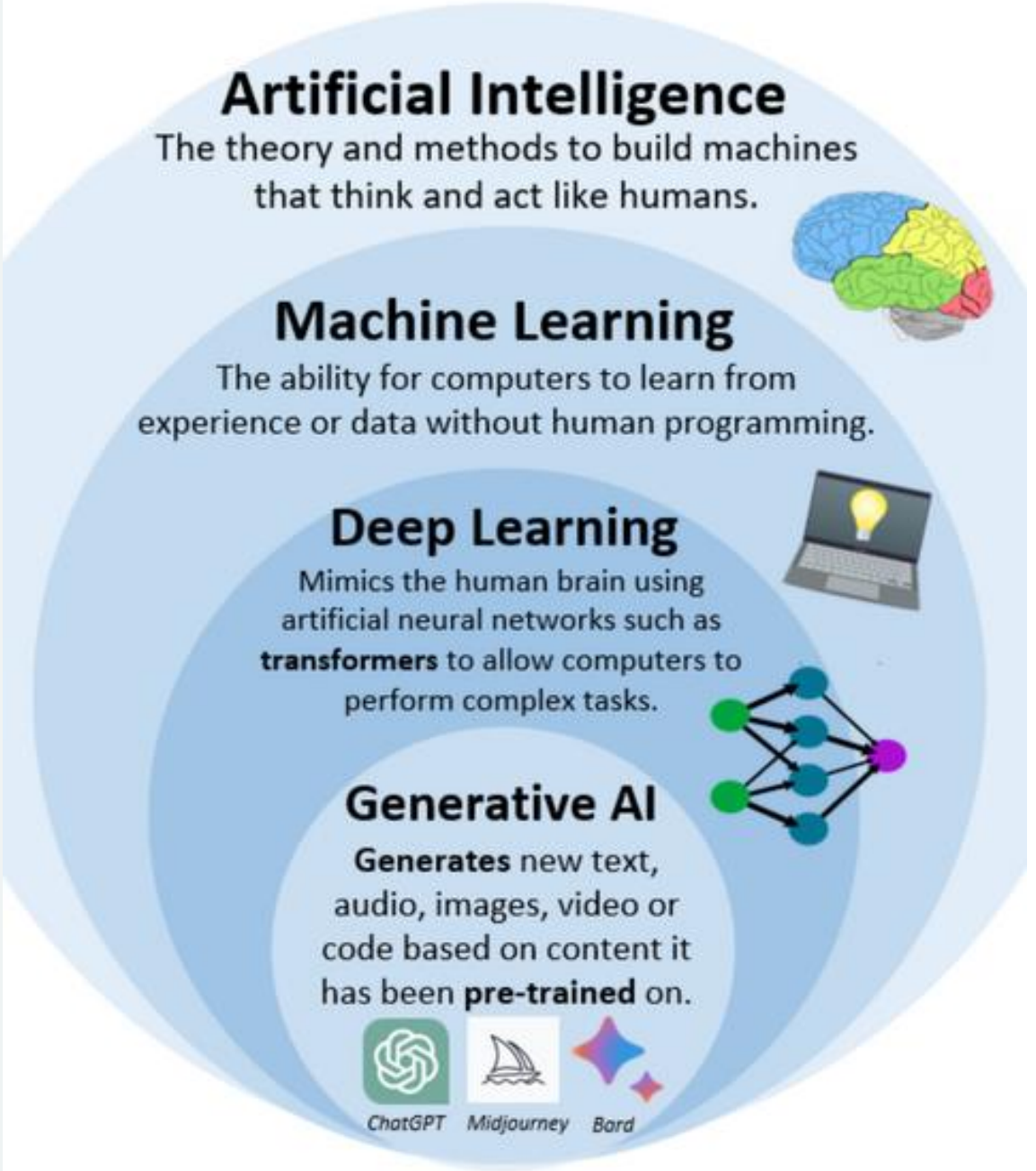
Familiarity & Comfort with Generative AI

From 1 – 5, rate your familiarity and comfort with Gen AI

1 ---------- 5

THE INSTITUTE FOR LEARNING AND TEACHING
COLORADO STATE UNIVERSITY

What is Generative AI?



How does Gen AI Work?

GPT – Generative Pre-trained Transformer

Generative AI works by using algorithms to analyze and learn patterns from large datasets. then generates new content based on that learned information. The main tools used: **Statistics** and **Probability**

1. **Training Phase**
2. **Learning Patterns**
3. **Generating Content**
4. **Fine-Tuning**

THE INSTITUTE FOR LEARNING AND TEACHING
COLORADO STATE UNIVERSITY

What's Out There?

Text Generating AI:

Chat-GPT (Open AI)

CoPilot (Microsoft)

Claude (Anthropic)

Gemini (Google)

Image-Generating AI Tools:

Dall-E 3 (Open AI)

Imagine (Meta)

MidJourney

Firefly (Adobe)

CoPilot (Microsoft)

Canva

Audio & Video Generating AI:

Chrome Music Lab (Google)

ElevenLabs Voice AI

Suno

Sora (Open AI- In development)

Google VideoPoet (In development)

Dream Screen (YouTube Shorts- In development)

List of other AI Tools

Main Generative AI Platforms: Let's Play.

- **Chat GPT** - One of the most widely used Gen AI platforms. > 35 million users.
- **Google Gemini** – An advanced AI with multi-modal and multi-app functionality.
- **Claude** – is particularly strong at language understanding & generation.
- **Perplexity AI** – Web access gives real time information. Multi modal / app.
- **Microsoft Copilot** – CSU supported, Office 365 integration.

Let's Play: Prompts to try out

General Framework for All Disciplines:

"Generate active learning strategies for a [Course Name] class that focus on [Specific Topic or Concept]. Include interactive activities, discussion prompts, and collaborative projects."

· For Science and Technology Courses:

"Suggest engaging laboratory exercises and hands-on activities for students in a [Specific Science Course], particularly for understanding [Specific Concept or Experiment]."

· For Humanities and Social Sciences:

"Propose active learning techniques for a [Course Name] that help students critically engage with [Specific Historical Period/Social Issue/Literary Work]. Include role-playing, debates, and analytical writing activities."

· For Arts and Design:

"Ideate on interactive and creative projects for a [Specific Art/Design Course] that enable students to explore [Specific Art Technique or Movement] through hands-on practice and peer critique.“

Ian Selig, Western Carolina University

Ethical Considerations

ADDRESSING BIAS

PRIVACY CONCERNS

ACADEMIC INTEGRITY

THE INSTITUTE FOR LEARNING AND TEACHING
COLORADO STATE UNIVERSITY

Generative AI in Your Classroom

Transparency and Disclosure

- Clearly communicate the role and limitations of generative AI in the course. Students should understand when and how AI tools can be used and the importance of disclosing their use.
- Require students to cite any AI-generated content they include in their assignments, like how they would cite traditional sources.

Ethical Use

- Emphasize the ethical implications of using AI, including the importance of honesty and integrity in their academic work.
- Discuss scenarios where using AI might constitute academic dishonesty, such as submitting AI-generated essays as their own work without proper attribution.

THE INSTITUTE FOR LEARNING AND TEACHING
COLORADO STATE UNIVERSITY

Generative AI in Your Classroom

Bias and Fairness

- Educate students about potential biases in AI systems and the importance of critically evaluating AI-generated content.
- Encourage students to cross-check AI-generated information with reliable sources to ensure accuracy and fairness.

Privacy Concerns

- Highlight the importance of protecting personal data when using AI tools, as these tools often require access to sensitive information.
- Advise students to use AI tools that comply with data protection regulations and to be cautious about sharing personal information.

THE INSTITUTE FOR LEARNING AND TEACHING
COLORADO STATE UNIVERSITY

Generative AI in Your Classroom

Skill Development

- Stress the importance of developing their own skills and knowledge, rather than relying solely on AI tools.
- Assign tasks that require critical thinking and creativity, ensuring students engage genuinely with the material rather than depending on AI for answers.

Academic Integrity

- Reinforce the CSU policies on academic integrity and the consequences of violating these policies.
- Create or co-create an AI Use Agreement that outlines acceptable and unacceptable uses of AI in coursework and discuss this with students at the beginning of the semester.

THE INSTITUTE FOR LEARNING AND TEACHING
COLORADO STATE UNIVERSITY

Resources that can help: AI Assessment Scale

1	**NO AI**	The assessment is completed entirely without AI assistance in a controlled environment, ensuring that students rely solely on their existing knowledge, understanding, and skills **You must not use AI at any point during the assessment. You must demonstrate your core skills and knowledge.**
2	**AI PLANNING**	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. **You may use AI for planning, idea development, and research. Your final submission should show how you have developed and refined these ideas.**
3	**AI COLLABORATION**	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. **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.**
4	**FULL AI**	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. **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.**
5	**AI EXPLORATION**	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. **You should use AI creatively to solve the task, potentially co-designing new approaches with your instructor.**

Perkins, Furze, Roe & MacVaugh (2024). The AI Assessment Scale

leonfurze.com

THE INSTITUTE FOR LEARNING AND TEACHING
COLORADO STATE UNIVERSITY

Resources that can help: Blooms Taxonomy Revisited

Oregon State University Ecampus

Bloom's Taxonomy Revisited

Use this table as a reference for evaluating and considering changes to aligned course activities (or, where possible, learning outcomes) that emphasize distinctive human skills and/or integrate generative AI (GenAI) tools as a supplement to the learning process.

All course activities and assessments will benefit from ongoing review given the evolving capabilities of GenAI tools.

	Distinctive Human Skills	How GenAI Can Supplement Learning*
CREATE	Engage in both creative and cognitive processes that leverage human lived experiences, social-emotional interactions, intuition, reflection, and judgment to formulate original solutions	Support brainstorming processes; suggest a range of alternatives; enumerate potential drawbacks and advantages; describe successful real-world cases; create a tangible deliverable based on human inputs
EVALUATE	Engage in metacognitive reflection; holistically appraise ethical consequences of other courses of action; identify significance or situate within a full historical or disciplinary context	Identify pros and cons of various courses of action; develop and check against evaluation rubrics
ANALYZE	Critically think and reason within the cognitive and affective domains; justify analysis in depth and with clarity	Compare and contrast data, infer trends and themes in a narrowly-defined context; compute; predict; interpret and relate to real-world problems, decisions, and choices
APPLY	Operate, implement, conduct, execute, experiment, and test in the real world; apply human creativity and imagination to idea and solution development	Make use of a process, model, or method to solve a quantitative or qualitative inquiry; assist students in determining where they went wrong while solving a problem
UNDERSTAND	Contextualize answers within emotional, moral, or ethical considerations; select relevant information; explain significance	Accurately describe a concept in different words; recognize a related example; translate to another language
REMEMBER	Recall information in situations where technology is not readily accessible	Retrieve factual information; list possible answers; define a term; construct a basic chronology or timeline

*AI capabilities derived with reference to an analysis of the MAGE framework, based on ChatGPT 4 as of October 2023. See Zaphir, L., Lodge, J. M., Lisec, J., McGrath, D., & Khosravi, H. (2024). How critically can an AI think? A framework for evaluating the quality of thinking of generative artificial intelligence. arXiv preprint arXiv:2406.14769.

Version 2.0 (2024)

THE INSTITUTE FOR LEARNING AND TEACHING
COLORADO STATE UNIVERSITY

Resources that can help: AI Use Agreement

Purpose: An AI agreement outlines the acceptable use of generative AI tools in your course, ensuring ethical, transparent, and responsible use by all students.

1. Transparency and Disclosure

•**Policy:** Disclose any use of AI tools in assignments.

•**Example:** "I used Chat GPT to generate part of this essay."

2. Ethical Use

•**Policy:** AI tools should be used to enhance learning, not replace original work.

•**Example:** AI-generated content must be properly cited and not submitted as the student's own work.

3. Bias and Fairness

•**Policy:** Critically evaluate AI-generated content for biases.

•**Example:** Check AI-generated information for accuracy.

4. Privacy Concerns

•**Policy:** Protect personal data when using AI tools.

•**Example:** Use AI tools that comply with data protection regulations and avoid sharing sensitive information.

5. Skill Development

•**Policy:** Focus on developing personal skills and knowledge.

•**Example:** Engage deeply with course material and use AI tools as supplementary aids.

6. Academic Integrity

•**Policy:** Adhere to CSU's integrity policies.

•**Example:** If unsure, ask when and if AI use is appropriate.

THE INSTITUTE FOR LEARNING AND TEACHING
COLORADO STATE UNIVERSITY

Ways to use AI tools in your workflow

AI Platforms have the potential to assist you in your courses through:

- **Efficiency** – AI can help speed up assignment and assessment development allowing for more student-focused time and activities.
- **Quality** – Well formed outlines and activities can be generated that align with learning outcome and/or standards.
- **Variety** – Endless ideas and examples can be generated and iterated in minutes.

Questions / What's Next

TILT Calendar

TILT AI Sessions:

February 25 2:30-3:30 **Empowering Students Through Generative AI: Enacting Their Rights to Language Literacy and Critical Thinking** Sue Doe, Kelly Bradbury, Genesea Carter

March 7th 12:00 – 1:00 **Assignments and Assessments in the AI age** Chris Geanious and Anastasia Williams

March 25, 10:00 – 12:00 **Introduction to Writing AI Prompts** Rachelle Ramer

April 15 1:00 – 2:00 pm **Leveraging Generative AI for STEM courses: Coding and Math Hacks** Stan Kruse

April 23 12:00 - 1:30 pm **Super Charge Your Course Development with AI** Chris Geanious and Joseph Brown

THE INSTITUTE FOR LEARNING AND TEACHING
COLORADO STATE UNIVERSITY

Thank you

Chris Geanious

The Institute for Teaching and Learning

Chris.Geanious@colostate.edu

THE INSTITUTE FOR LEARNING AND TEACHING
COLORADO STATE UNIVERSITY