

# AI in Education

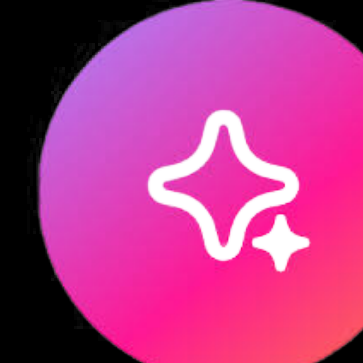
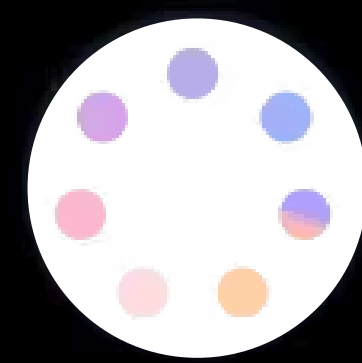
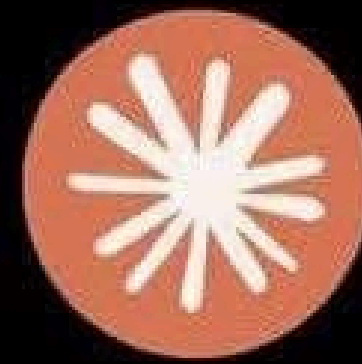


**Jerol Enoch, PhD**  
**Teaching and Learning Processes**

**Instructional Designer**  
**St Charles Community College**



How many  
do you know?



How many  
do you know?



ChatGPT



DeepSeek



Gemini



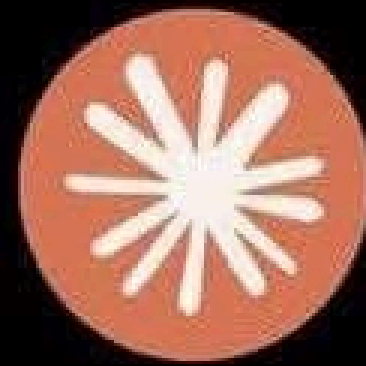
Meta AI



Le Chat



Copilot



Claude



Perplexity



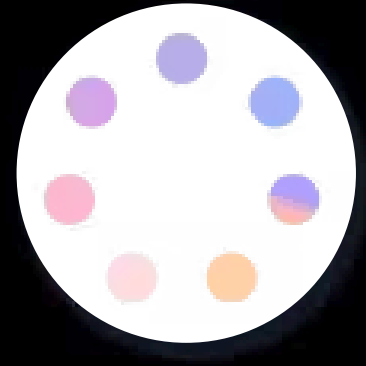
Grok



Groq



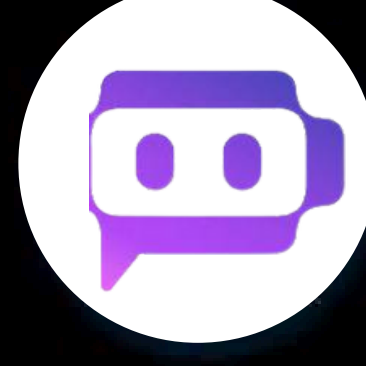
You



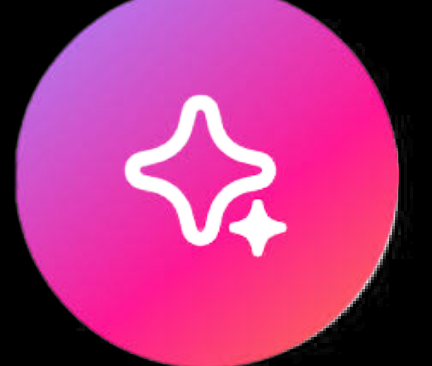
Hume



Pi



Poe



Leo



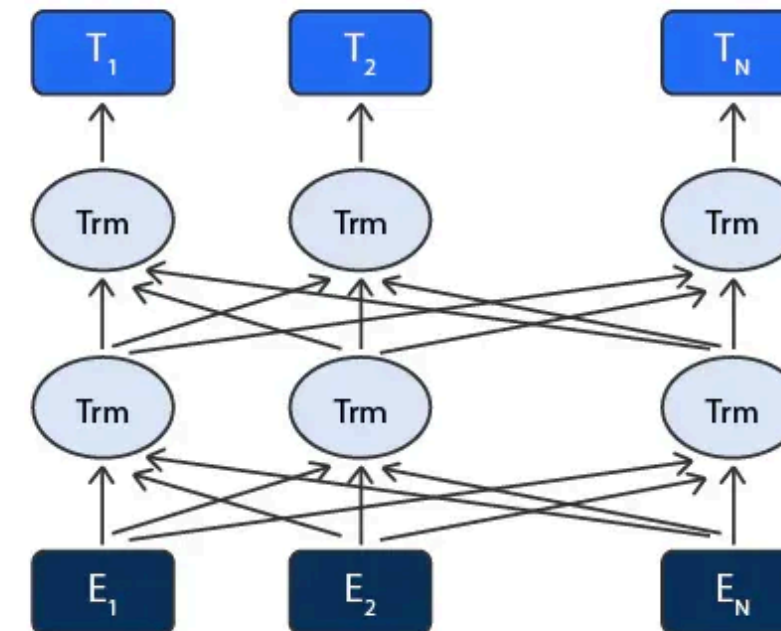
**Is there any  
connection  
between what you  
see here and  
current AI?**





**BERT (Bidirectional Encoder Representations from Transformers) is a powerful language model that excels at understanding the context of words in text by considering both preceding and following words. It's a key component of many natural language processing (NLP) applications, including search engines, chatbots, and language translation.**

Google

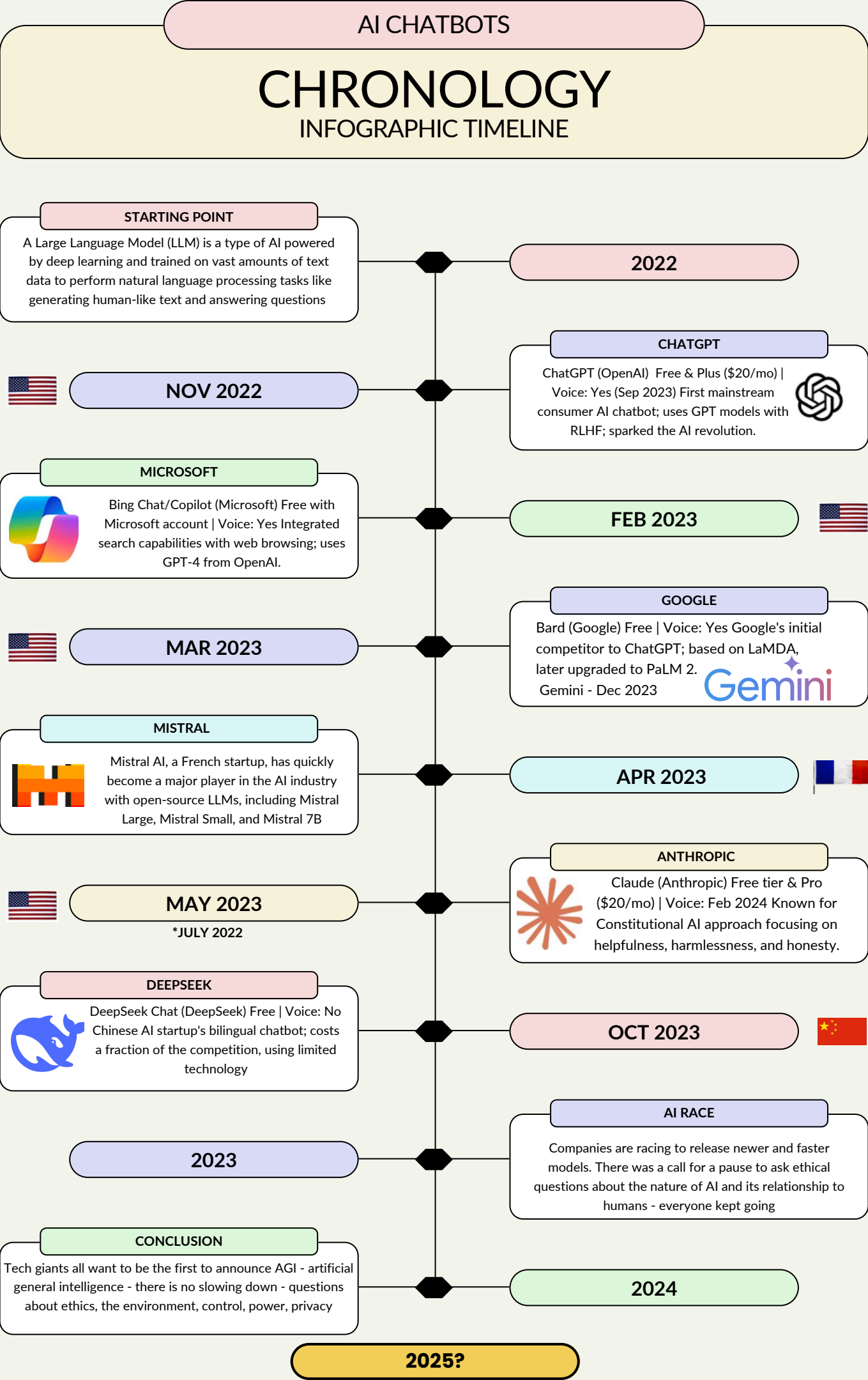




Ernie Bot (Chinese: 文心一言, Pinyin: wénxīn yīyán), full name Enhanced Representation through Knowledge Integration, is an AI chatbot service product of Baidu, released in 2023. It is built on a large language model called ERNIE, which has been in development since 2019.









Name	Company	Price	Voice	Key Differentiator	Type
Chat GPT 5	OpenAI	\$20/month	Yes	Unified telemetry & memory controls	LLM/RM
Le Chat	Mistral AI	Free / \$15.6/month	No	1000 words/sec speed + Memories	LLM/RM
Poe	Quora	Free / \$20/month	Yes	Aggregates multiple LLMs	LLM
Grok-2	xAI	\$16/month	No	Satirical tone, real-time X data	LLM
Claude 3	Anthropic	\$20/month	Yes	Ethical AI for sensitive industries	LLM
YouChat	<a href="#">You.com</a>	Free / \$15/month	Yes	Privacy-focused, ad-free	LLM
DeepSeek-R1	DeepSeek	\$15/month	Yes	Chinese market specialization	LLM
GitHub Copilot Pro	GitHub	\$10/m o n t h	No	AI-powered coding assistance	LLM
Perplexity	Perplexity AI	Free / \$20/month	No	Accuracy-focused AI search engine	LLM
Google Gemini	Google	Free / \$20/month	Yes	Integration with Google s ervi ces	LLM
Microsoft Copilot	Microsoft	Free / \$20/month	Yes	Integration with Microsoft 365	LLM
Brave Leo AI	Brave	Free	No	Privacy-focused AI assistant	LLM

The major players in the LLM chatbot space as of February 2025, based on market share data



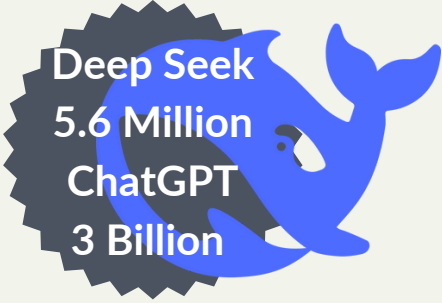
Ethics



Environment

[Google Environmental Report 2024](#)

[Microsoft Sustainability Report 2024](#)



Cost

“One query to ChatGPT uses approximately as much electricity as could light one light bulb for about 20 minutes,” he says. “So, you can imagine with millions of people using something like that every day, that adds up to a really large amount of electricity.”

[NPR report 2024](#)

By 2026, the electricity consumption of data centers is expected to approach 1,050 terawatts (which would bump data centers up to fifth place on the global list, between Japan and Russia).

[MIT report 2025](#)



Agents

Accuracy

Privacy

Overall Use



Microsoft unveils Majorana 1, the world’s first quantum processor powered by topological qubits





Ethan Mollick ✓

@emollick



Remember, today's AI is the worst AI you will ever use. The writing will improve, the amount of words the AI can hold in memory will improve (making stories more coherent), and the costs will drop.

Prepare for a flood of content.

8:12 PM · Jun 20, 2023 · **22.5K** Views



14



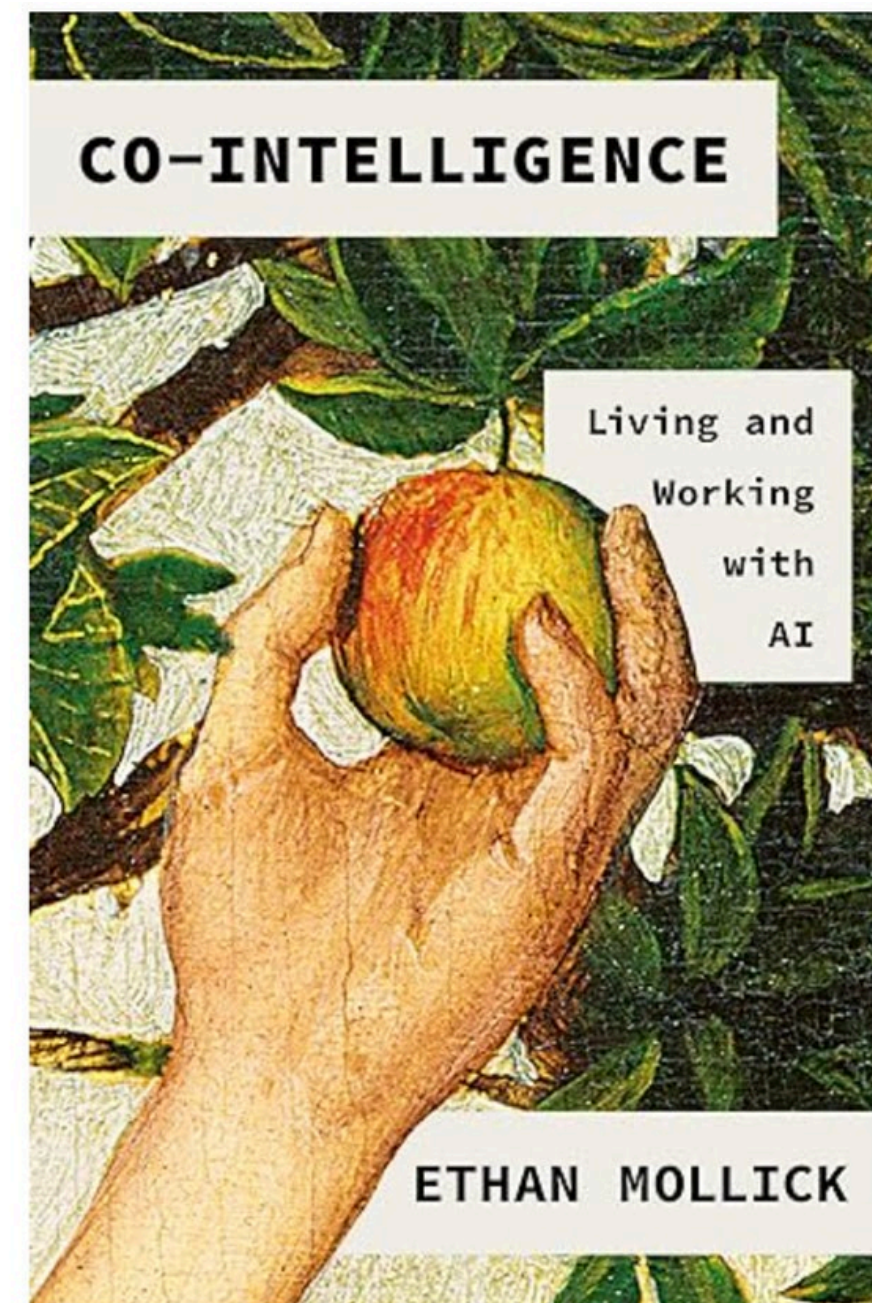
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# Ethan Mollick



# 5 PROMPTS IDEAS FOR HIGHER ED

1



## Two Heads (are better than one)

- Description: "What am I not thinking about? What have I forgotten? What else should I consider?"
- Function: Encourages comprehensive planning and helps identify blind spots in course design by promoting holistic thinking and revealing potential overlooked elements.

2



## Devil's Advocate

- Description: "Think about what I asked you to do and tell me why this might not be the best idea. Recommend alternatives."
- Function: Challenges assumptions and promotes critical thinking about course design choices by providing counterarguments and alternative perspectives.

3



## Study Buddy

- Description: "Find the research to support what I am trying to do. Provide relevant studies and their key findings."
- Function: Ensures evidence-based approach to course design and helps faculty stay current with educational research by surfacing peer-reviewed and relevant scholarly sources.

4



## Design Decoder

- Description: "Apply Universal Design for Learning principles to this course content. Suggest multiple means of representation, action and expression, and engagement."
- Function: Ensures course design is accessible and engaging for all learners by systematically analyzing content through UDL frameworks

5



## Assessment Alchemist

- Description: "Generate creative assessment ideas that align with these learning objectives, focusing on authentic and diverse evaluation methods."
- Function: Assists in developing innovative and effective ways to measure student learning outcomes



And always

**Before you answer - repeat back to me what you think I want you to do. Ask me three questions before you answer.**

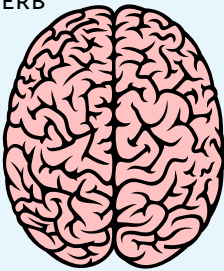


# KEYS TO A GOOD PROMPT

EVERYTHING YOU WANTED TO KNOW ABOUT PROMPTING,  
BUT DIDN'T KNOW HOW TO ASK

## LEARNING

- FOCUSING ON LEARNING
- ALIGN WITH OBJECTIVES
- BLOOM'S VERB
- ACTIVE



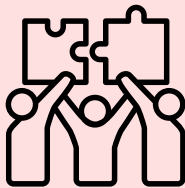
## CRITICAL THINKING



"GENERATE ARTIFACTS THAT  
ENCOURAGE STUDENTS TO  
REFLECT ON THEIR OWN  
LEARNING PROCESS AND  
IDENTIFY AREAS WHERE THEY  
NEED TO IMPROVE."

## ALIGNMENT

CREATE INSTRUCTIONAL  
MATERIALS,  
LEARNING ACTIVITIES, AND  
ASSESSMENTS THAT ALIGN



**MODALITY**  
**COURSE INFO**  
**GOAL / PURPOSE**

IN PERSON, ONLINE, HYBRID, FLEX, ETC.  
COL-101  
I WANT TO CREATE/ DESIGN \_\_\_\_\_

**COURSE FUNCTION**

INSTRUCTIONAL MATERIALS  
LEARNING ACTIVITIES  
ASSESSMENTS

**LEARNING OBJECTIVES**

MEASURABLE OBJECTIVES  
SPECIFIC AND OBSERVABLE

**OPTIONS AND ALIGNMENT**

UDL - VARIETY OF MEANS OF REPRESENTATION,  
ENGAGEMENT, AND EXPRESSION  
ALIGNMENT

**CONNECTIONS**

MAKE SURE THE CONNECTIONS ARE CLEAR  
PROVIDE A SUMMARY OR OVERVIEW OF  
CONNECTIONS - IM, LA, A

**CONTEXT**

KEY INFORMATION NEEDED  
DO'S AND DONT'S

**CHECK**

BEFORE YOU RESPOND,  
REPEAT BACK TO ME WHAT  
YOU THINK I WANT

**Ask**

BEFORE YOU RESPOND,  
ASK ME THREE OR MORE  
QUESTIONS THAT MIGHT  
HELP YOU



# Prompts in Course Design

## 1 Two Heads

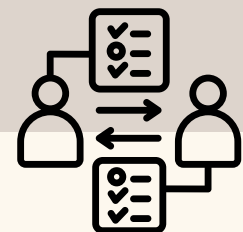


Analyze my course plan for [COURSE NAME]. What key pedagogical elements, assessment opportunities, or engagement strategies might I be overlooking? Consider both traditional and innovative teaching approaches.

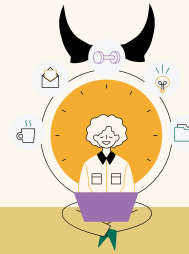


## 4 Assessment Alchemist

Given these learning objectives for [COURSE], suggest innovative assessment methods that: a) minimize grading burden, b) deter academic dishonesty, and c) provide meaningful feedback to students.



## 2 Devil's Advocate



Review my proposed [teaching strategy/assessment/course design] for [specific element]. What pedagogical challenges might arise? What student engagement issues should I anticipate? Suggest evidence-based alternatives.



## 5 Engagement Engineer

Analyze this course component [lecture/activity/assignment] for potential student engagement barriers. Suggest ways to increase active learning while maintaining core learning objectives. Consider both in-person and online modalities.

## 3 Design Decode



Analyze my current [lecture/assignment/assessment] through UDL principles. Suggest specific modifications that would make this more inclusive while maintaining academic rigor.



## 6 Alignment Architect

Analyze the alignment between my learning objectives, instructional materials, learning activities, and assessments. Identify any gaps or misalignments. For each learning objective: (1) verify that instructional materials directly support it, (2) confirm activities give students practice with the specific skills/knowledge, and (3) ensure assessments actually measure student achievement of that objective.

**BONUS**



# Subject specific

## STEM

Lab Design Prompt: "Analyze this lab procedure for potential learning bottlenecks. Suggest modifications that maintain rigor while improving student understanding."

Problem-Set Creator: "Generate varied practice problems that progress from basic concept checking to complex application."

## Humanities

Discussion Designer: "Create scaffolded discussion prompts that move from text analysis to broader theoretical implications."

Source Analysis: "Develop a framework for students to critically evaluate primary sources while maintaining historical context."

## Business

Case Study Enhancer: "Identify key decision points in this case study where we could add complexity or alternative scenarios."

Industry Integration: "Suggest ways to incorporate current market trends into this theoretical framework."

## Arts

Critique Framework: "Design a structured critique process that balances technical skill evaluation with creative expression."

Portfolio Development: "Create guidelines for progressive skill demonstration throughout the semester."

## Math

Applied Problem Framework: "Design a structured problem-solving process that balances computational accuracy with real-world application and interpretation."

Progressive Modeling Development: "Create guidelines for building mathematical modeling skills that move from basic scenarios to complex real-world situations throughout the semester."

# FIVE

## INSTRUCTIONAL MATERIALS

### WAYS TO USE AI

# 1

#### PRESENTATIONS

Use the prompts to create a script - use Canva or Gamma to convert to presentation



# 2

#### EXTENSIONS

 **BRISK TEACHING**

Brisk can convert any YouTube video into a presentation.

 **Monica**

Monica can read, summarize, create images/videos, translate, convert, write, etc.

# 3

#### IMAGES/VIDEOS

[There's an AI for that](#)

[What AI can do today.](#)


[Digital Samaritan](#)



# 4

#### CONTENT CREATION

Quick Overview  
 **Napkin**  
beta

Explainer video  
 **MathGPT**

Avatar  
 **HeyGen**

Visualization

 **Lucid**

 **Mapify**

Sound

 **Suno**



# 5

#### OPEN EDUCATIONAL RESOURCES

Use an Chatbot to help create content for:  
H5P (interactive book), Book Creator, OER Commons Open Author, Pressbooks, Twine, LibreTexts, Manifold





# FIVE

WAYS TO  
USE AI

## LEARNING ACTIVITIES

### LOTS

Lower-order thinking skills  
identify, define, list, label,  
name, describe, recall,  
recognize, state, match

 BRISK TEACHING



### HOTS

Higher-order thinking skills  
Appraise, Argue, Assess,  
Compare, Contrast, Create,  
Defend, Describe, Evaluate,  
Explain, Interpret,



### CRITICAL THINKING

#### THE-124-N01

Using AI to  
get ready for  
film

Analyze AI output  
Compare and Contrast  
Is this good?

### REAL WORLD

#### MAT-155

Using AI to  
think about  
math in the real  
world

**Perusall**<sup>®</sup>

### MAKING THINKING VISIBLE

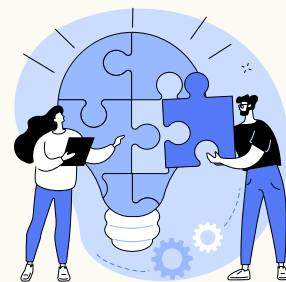
#### MDA-120

Patient Simulation

**Playlab**

Bring your AI-powered education ideas to life.

### SCENARIO BASED



# Tools

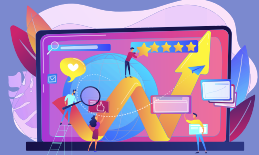
Tools that help with learning, summarizing, and organizing knowledge.

- Study fetch
- You learn
- Gyosu.ai
- Answers.ai
- Question well
- Prompt genie
- Unriddle
- Unstuck - studynew
- Thoreo

Case Uses:

1. Automatically summarizing study materials and research papers.
2. Generating quiz questions based on textbooks and lecture notes.
3. Providing AI-driven explanations for complex concepts.

## Study



Tools that assist in writing, note-taking, and content creation.

## Writing



- Notebook LM
- Napkin
- Mote
- Scribe how extension
- Plus AI for Google Docs
- InfinityAI

Case Uses:

1. AI-generated notes and document organization.
2. Transcribing and summarizing meetings or lectures.
3. Generating structured content outlines and reports.

## Productivity



Tools that improve task management, project handling, and efficiency.

- ClickUp - Project Management
- Tango
- Context window for ChatGPT
- Detail app (split-screen recordings)
- Atlas.org

Case Uses:

1. Automating repetitive tasks and scheduling.
2. Managing collaborative projects efficiently.
3. Enhancing multitasking with AI-assisted workflows.

AI tools that assist in coding, debugging, and enhancing programming workflows.

- Cursor
- Anthropic (computer use)
- Graph.cubode.com

Case Uses:

1. AI-assisted coding and debugging suggestions.
2. Auto-generating documentation for code.
3. Analyzing large codebases and providing insights.

## Coding



AI tools that help with image generation, font identification, and video creation.

- Pika 2.0
- Clip Anything
- VisualMind
- Nomorecopyright.ai
- HeyGen
- Synthesia
- Gamma
- Edraw.ai

Case Uses:

1. Creating AI-generated images and videos.
2. Generating visual mind maps and design assets.

## Design



## Visualization



Tools for organizing thoughts, brainstorming, and structuring information.

- Map This
- ChatGPT Visual Mind
- Illuminate (Google)

Case Uses:

1. Structuring brainstorming sessions into visual maps.
2. Generating flowcharts and concept diagrams.
3. Organizing research data into clear visual formats.

## Discovery platforms



Platforms that provide directories of AI tools and capabilities.

- What AI Can Do Today
- There's an AI for That
- Futuretools.io
- DigitalSamaritan.co
- Jellyfish AI
- This or That AI

Case Uses:

1. Finding the right AI tool for specific tasks.
2. Keeping up with emerging AI trends and capabilities.
3. Comparing AI tools for different use cases.

