

FACULTY WORKSHOP TEACHING WITH CHATGPT

Advisors

Dr. Ebrahim Tarshizi
CDCS Director, Program Director
MS-AAI, MS-ADS



Dr. Andrew Van Benschoten
Adjunct Professor of AI, Director of
Advanced Analytics @ Land O' Lakes



Presenters



Johnathan Long
MS-AAI Student



Carlo Sanchez
MS-AAI Student



Lucas Young
MS-AAI Student



Workshop Sponsors



Our **mission** is to empower **individuals** and **organizations** to responsibly navigate and shape the digital landscape by promoting **ethical AI**, **data literacy**, and responsible use of data-driven technologies.

We achieve this by offering accessible resources such as online courses, expert guest speaker events, applied research presentations, and workshops—both **on campus** and **online**.

Through **collaborations** with faculty, students, staff, and community stakeholders, we raise awareness and provide training in AI, data science, and the ethical implications of **emerging technologies**. By bridging education, research, and community engagement, we aim to **equip individuals** with the **tools** and **knowledge** to foster a more equitable and transparent digital society.



Mission: The USD MS-AAI online program is committed to **training** current and future artificial intelligence professionals for the important and fascinating work ahead.

The strengths of our program include a significant emphasis on real-world AI applications, **ethics**, moral responsibility, and **social good** in designing AI-enabled systems.



University of San Diego®

Today we will cover:

Prompting 101

- Working Effectively With AI Systems

Turn Learning Into a Game

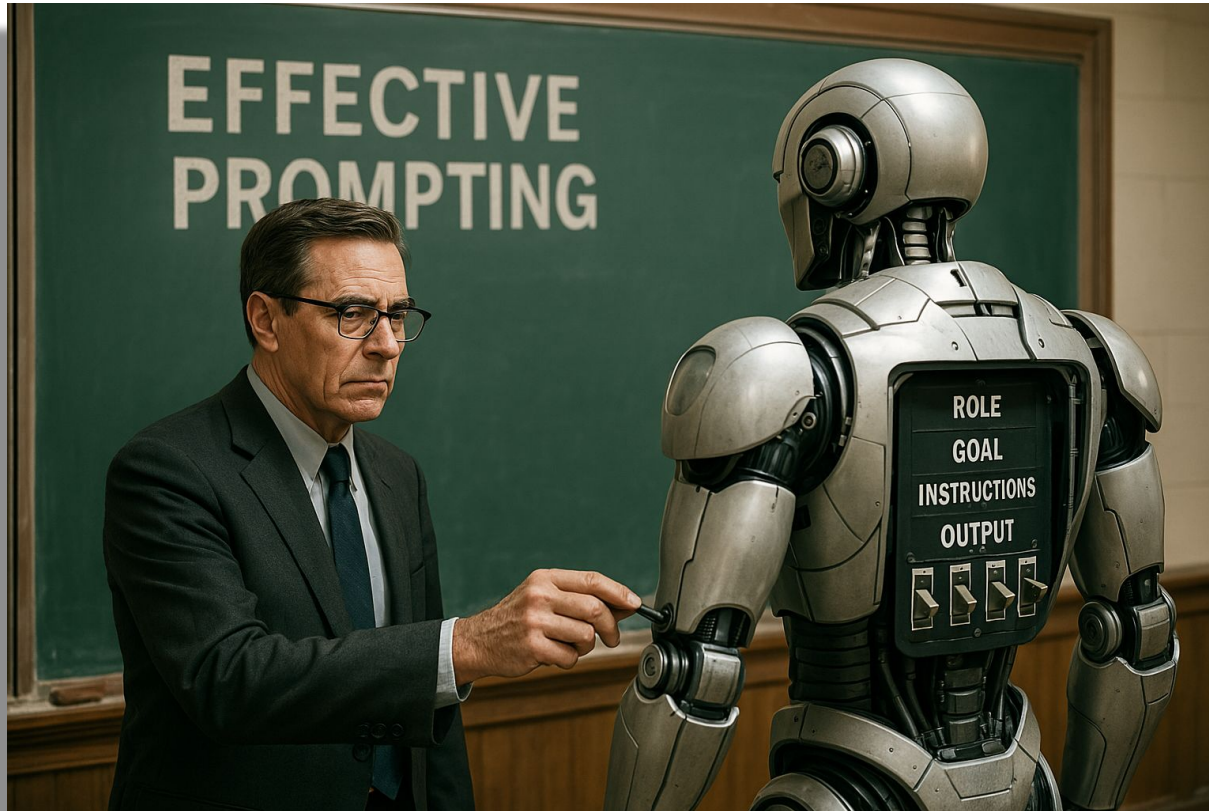
- Creating Interactive Learning Activities With AI

Gen AI and Academic Integrity

- Using AI Responsibly

Prompting 101

Working Effectively With AI Systems



Why Prompting Matters...

What can I help with?

|Ask anything



Search



Deep research



Image Source: OpenAI. (2025, March 27).
ChatGPT (GPT-4) [Large language model].

Effective Prompting Enables:

Clarity: Reduces vague or off target responses

Efficiency: Gets you closer to the desired result faster

Control: Shapes tone, complexity, and relevance

Creativity: Generate more nuanced and innovative outputs

Consistency: Ensures more repeatable outputs



Four Steps To Effective Prompting

1) Give it a “Role”

Create a vantage point from which knowledge can be observed and assessed.

2) Give it a “Goal”

What outcome would you like to achieve?

3) Give it “Instructions”

The steps or process needed to achieve the goal.

4) Give it a desired “Output”

Can include length of response, style, reference documents and more.

Give It A “Role”

The **role** sets the initial frame of reference for the LLM to assume.

This can be a **persona**, **expertise** or any **initial conditions** which will inform the line of thought needed to complete the task.

Persona

Warren Buffett

Steve Jobs

Isaac Newton

Unfamiliar with
Balance Sheets

Expertise

You are
experienced in:

Financial
forecasting

Industrial
Engineering

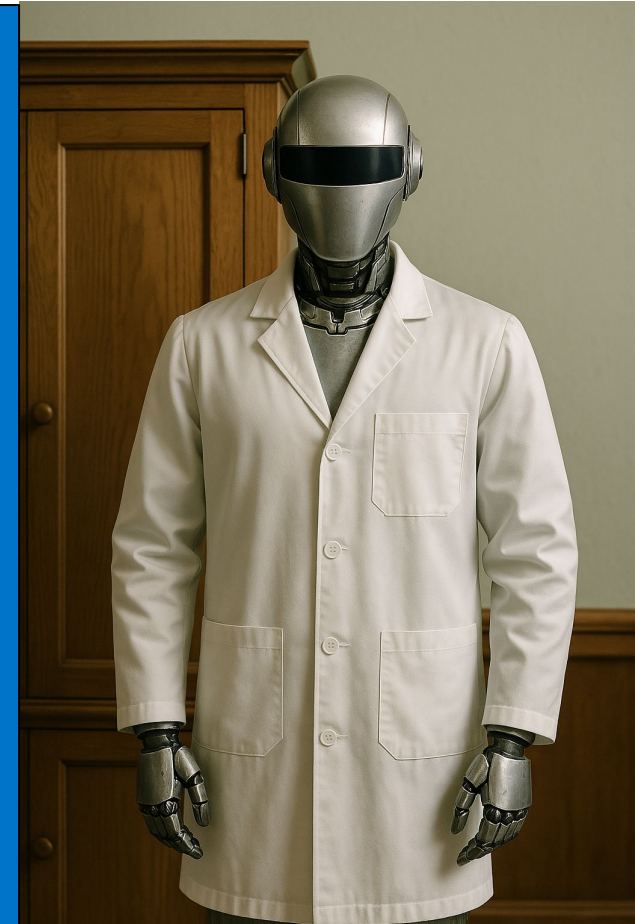


Image Source: OpenAI. (2025, March 27).
ChatGPT (GPT-4) [Large language model].

Consider this Prompt

User: “In one sentence tell me about dogs”

ChatGPT:

Dogs are loyal, intelligent, and social animals that have been human companions for thousands of years, known for their playful nature, diverse breeds, and roles in companionship, protection, and service.

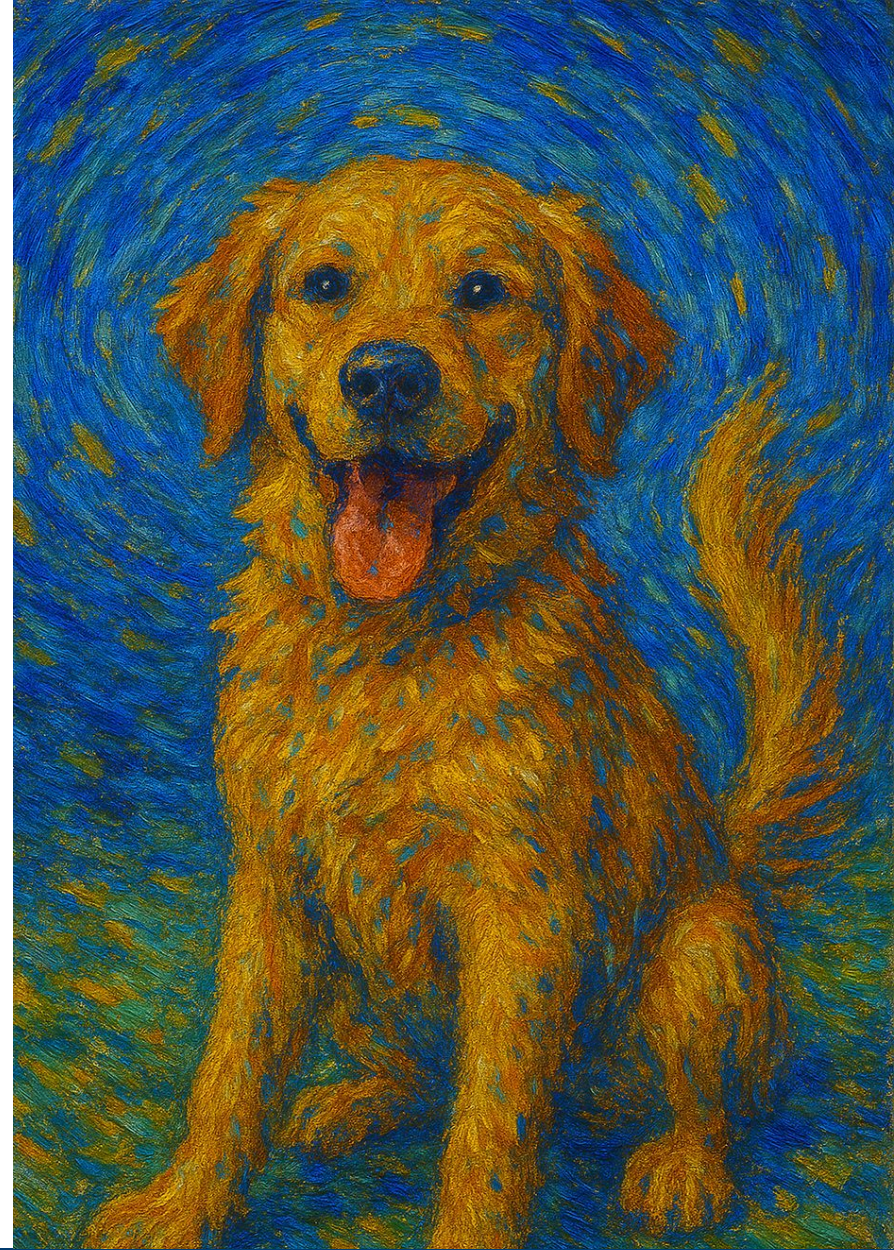


Image Source: OpenAI. (2025, March 27).
ChatGPT (GPT-4) [Large language model].

What if we try...

User: “**You are a cat.** In one sentence tell me about dogs”

ChatGPT:

Dogs are slobbery, hyperactive creatures who wag their tails like it's a full time job and have absolutely no concept of personal space.



Give It A “Goal”

The **Goal** is the desired outcome for your query.

Create an eight week summer course on robotics.

Design an interactive game aimed at enhancing critical thinking and problem solving abilities.

Review the provided document and search for context related to Porter’s Five Forces.

Have a conversation with the user regarding their startup idea.

Interview the user to explore the depth of their understanding of X.



Let's try it out!

Choose from the following list of personas:

Warren Buffett

Steve Jobs

Isaac Newton

Hedy Lamarr

Prompt: You are (**Insert Persona**) discussing your greatest achievement. I will ask you a series of questions, do not break character. After five questions, provide a summary of our discussion, ranking my questions on a scale from 1-10 based on "industry insight" "relevance" and "originality".



Give It “Instructions”

Instructions provide guidance and enhance repeatability.

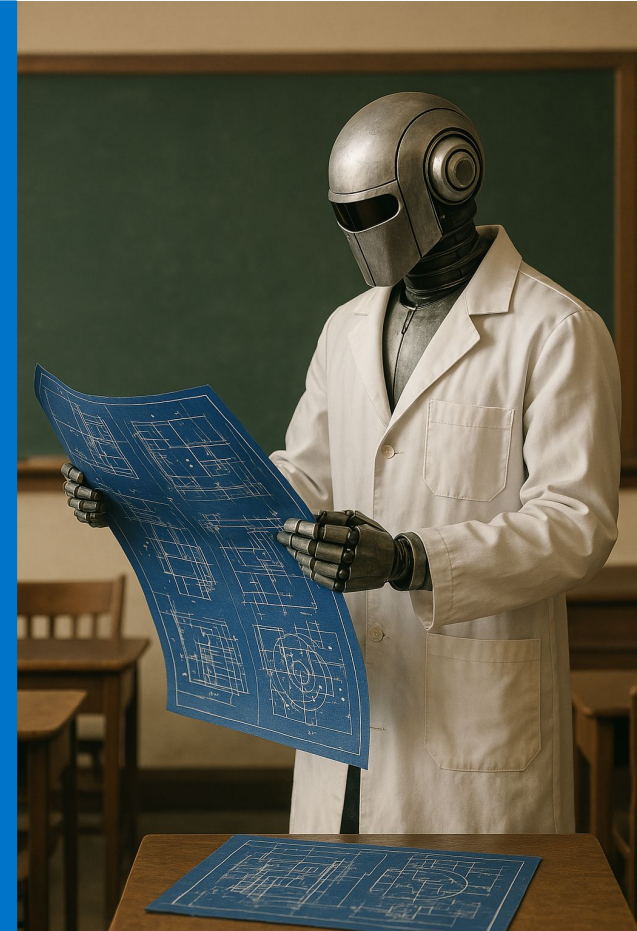
Use the provided terms list when generating content, and format according to the provided template.

Perform a web search on topic X, looking for peer reviewed articles from reputable sources.

First do X, then Y then Z.

Before you begin, list the steps you intend to follow.

Based on the following five examples, give me ten more ideas.



Give It A Desired “Output”

In what format do you want the information presented?

Output formats can include the **style** or **file type**

Style

Bullet points

Table/Graph

300 words

For a first year
engineering
student

File type

CSV

DOCX

PDF



Let's take a quick tour..

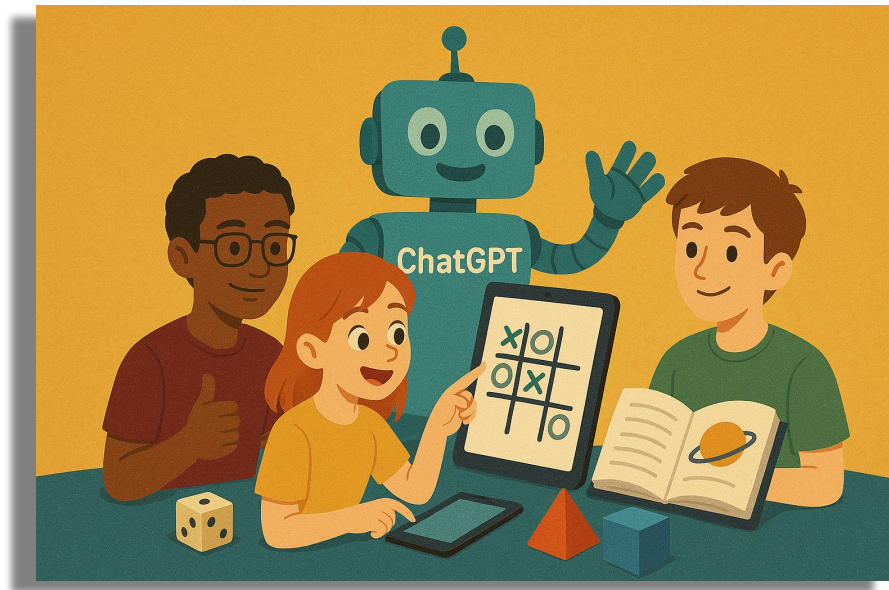
Next we will take a quick demo of a few of the programs available to help aid you and your students and test out some prompts.

But first, any questions so far?



Turn Learning Into a Game

Creative Interactive Learning Activities with AI



Turn Learning into a Game

- Leverage AI Platforms to gamify your teaching
 - Create an interactive learning environment for you and your students
 - Seamless to integrate and easy to customize
- **MyGPTs** let you create your own custom GPT with ChatGPT Plus
 - Use your preexisting lecture material to create:
 - An interactive detective game
 - A choose your own adventure game
- Create an interactive game using [Claude.ai](#) and [Gemini](#)
- How does this work?

The GPT in ChatGPT

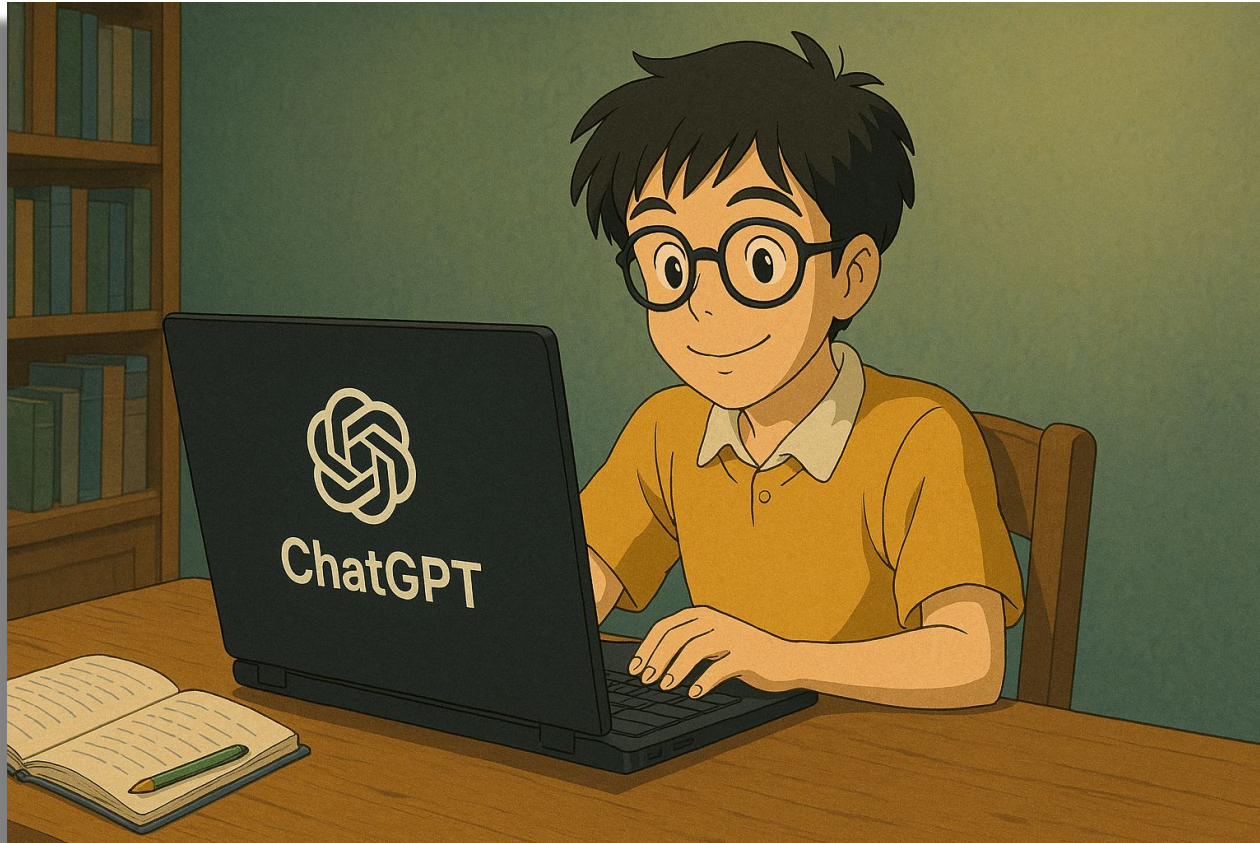
- "GPT" stands for Generative Pre-trained Transformer
 - Generative means it can create things — like sentences, stories, or answers to your questions
 - Pre-trained means it already “read” lots of information
 - Transformer is the algorithm it uses to understand and generate text
- GPT is the engine
 - The core language model trained by OpenAI
 - It’s like the brain: super smart, knows a lot, but doesn’t have a personality or way to talk to you directly
- ChatGPT is the app
 - The chatbot interface that uses GPT to have conversations
- **MyGPT** learns on the material you upload and lets you interact with it

What does this mean for us?

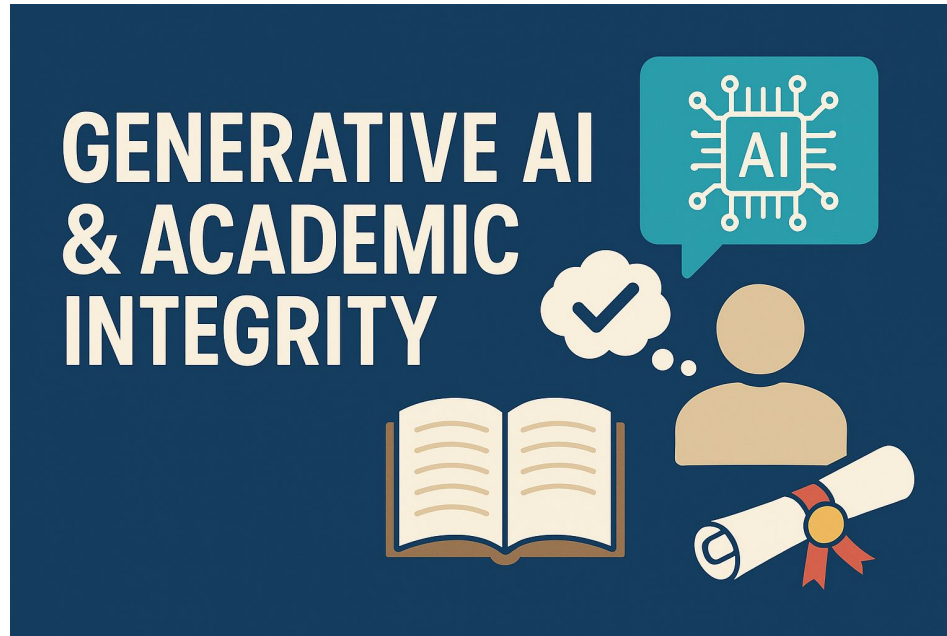
- Create new content in minutes, not hours
 - Upload your existing material
- No programming required
 - Just describe what you need
- Reusable for every semester
 - Can be easily updated if needed
- Engaging and active learning
 - For review or for extra credit



Let's Get Learning!



Generative AI & Academic Integrity



"Science is built up with facts, as a house is with stones. But a collection of facts is not science, any more than a heap of stones is a house."

- Henri Poincaré

Generative AI & Academic Integrity

How to make effective decisions in a time of uncertainty by building upon present and traditional policy.

- Let's review the current [Honor Code](#) from the *University of San Diego*. Referring to the Academic Dishonesty section (pg.7), think about how AI could be used/misused within one of these scenarios.
- How may this particular instance come about with one of your lessons?

Generative AI & Academic Integrity

How is Generative AI being utilized to cheat? And what can we do to prevent that? Understanding the practical **limitations** of Generative AI will help us to assess a student's dependency and promote critical thinking and problem-solving skills!

Let's break down the constraints of engaging with ChatGPT into components:

- Q** **Question:** The input, known as the “prompt” or “request”
- C** **Context:** Content that may assist with problem solving
- D** **Depth:** New information that was not previously known
- S** **Solution:** The output, known as the “response”

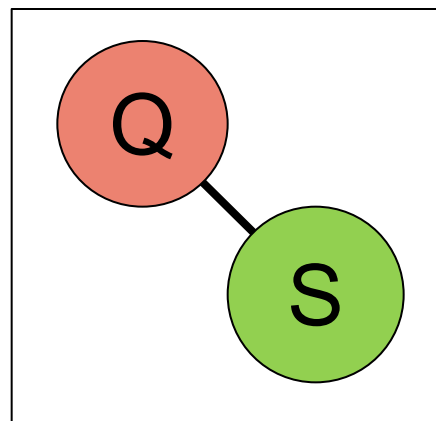
Question – to – Solution

Prompt: Given a Consumption function, $C = 500 + 0.75(Y - T)$
Investment $I = 1200$ Government spending $G = 800$
Net exports $NX = 100$ and Taxes $T = 500$ with an
MPC of 0.75 and an autonomous spending
multiplier of $1/(1 - \text{MPC})$.

A student is provided a question that they then copy/paste word-for-word into ChatGPT

Calculate the percentage change in GDP when government spending increases by 200

Response: A 200-unit increase in government spending leads to an **8.99% rise** in GDP



Depth – to – Solution

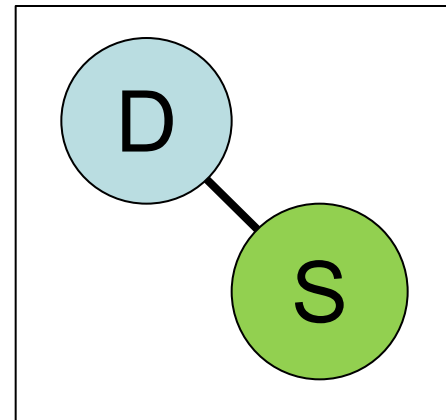
Prompt: What is the formula for the moment of inertia about a disk?

A student uses ChatGPT to locate an equation they will use to answer a problem.

Response: $I = \frac{1}{2}MR^2$

Where **M** is the **mass** of the disk, and **R** is the **radius** of the disk.

This formula assumes the axis of rotation is perpendicular to the surface of the disk and passes through its center.

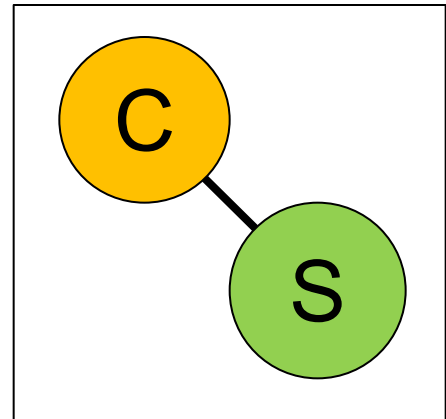


Context – to – Solution

Prompt: Complete the study guide found here:
[Mock Integrated Engineering Final](#)

Response: [Response](#)

A student is provided a pdf document [Mock Integrated Engineering Final] in which they input into ChatGPT with the prompt shown. ChatGPT then provides an output response which the student then formats back into a pdf document.



Context – Depth – Solution

Prompt: Provide me with 5 different case studies where a global company faces sustainability challenges

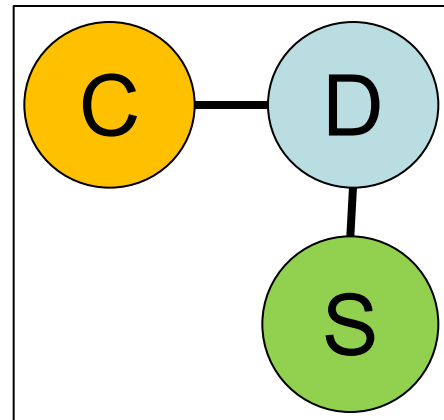
Response: Global Companies Facing Sustainability Challenges:

1. Coca-Cola – Water Scarcity & Plastic Waste
2. Apple – Ethical Sourcing of Raw Materials
3. Tesla – Battery Production Impact
4. H&M – Fast Fashion Waste
5. Nestlé – Deforestation & Water Privatization

Prompt: Which of these companies was the most impacted by their sustainability challenges?

Response: ...Nestlé has likely endured the most sustained global criticism....

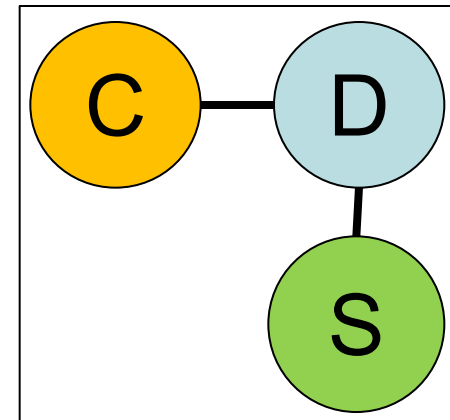
A student uses ChatGPT to explore ideas and grasp new perspectives for their project



Context – Depth – Solution Cont.

Prompt: How was Nestlé affected?

Response: Nestlé faced significant reputational damage, legal pressures, and consumer boycotts due to water privatization, deforestation, and unethical sourcing practices. These issues led to financial impacts, increased operational costs, and a loss of consumer trust. In response, Nestlé implemented sustainability measures, but its reputation remains challenged.



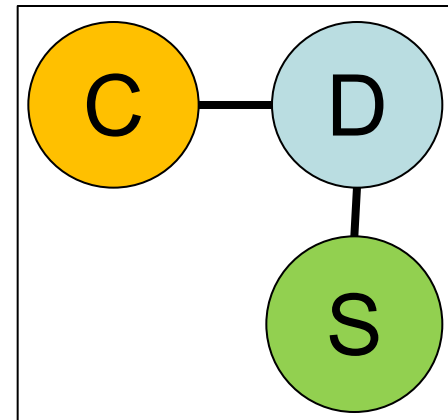
Critical Reasoning with Generative AI

As with any advancing technology, the intent often outweighs the functionality. Generative AI is an exceptional tool to engage students in critical reasoning. In this case scenario, the student is exercising critical thinking and reasoning skills by challenging thought-provoking assumptions. The student is persistently questioning the technology to expose contradictions and inconsistencies, ultimately leading to a deeper understanding.

This practice embodies the **Socratic Method**, and by adjusting the complexities of context and depth, we can encourage critical thinking, increased self-awareness, and improved understanding.

“Technology is neither good nor bad, nor is it neutral”

- Melvin
Kranzberg



Promoting Ethical Use

How do we assess students' dependency on generative AI using what we've covered in the previous section?

- Introduce methods to amplify student's critical thinking & reasoning practices when using Generative AI by involving **depth** and **context** within our assessments.
- Limitations and functionalities of Generative AI and how to spot vulnerabilities within the technology.

AI-Proofing Assignments

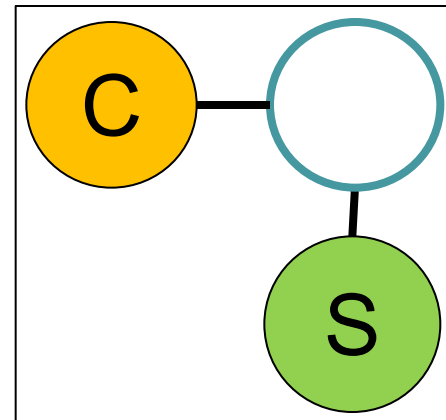
Prompt: Refer to exercise #2.3a on page 244 of the textbook:
Which of these companies was the least impacted?

Response: Could you provide more details about the exercise?
That will help me guide you through the process of
selecting the least impacted company.

A student provides ChatGPT with a question without context. ChatGPT is limited by the lack of information.

Prompt: Considering the case study you selected from
before, what key programs would you consider
implementing today to reduce the risk of facing
these challenges? Explain your reasoning.

Response: To help reduce the risk of facing sustainability
challenges similar to those faced by companies like
Coca-Cola and **Nestlé**, several key programs could
be implemented today... ect.



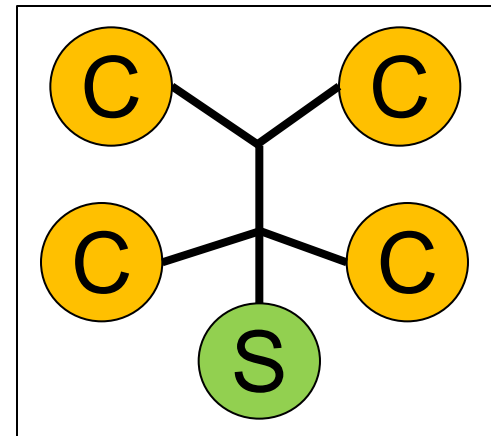
Multiple Choice Questions

Prompt: Which of the following choices defines “balance”:

- A. The amount of money available in an account or the state of being financially stable.
- B. A situation where different elements are equal or in the correct proportions.
- C. The ability to stay upright or steady.
- D. A situation where forces or factors counteract each other.

Response: The correct answer is all of the above (A, B, C, and D) because "balance" has multiple definitions depending on the context.

A student inputs a multiple choice question into ChatGPT but needs to provide the context themselves



Using Citation to Prevent Dependency

An **in-text citation** requirement is often good practice for establishing academic honesty for written assignments.

- Requires students to read through and personally identify which region of the author's work is relevant to their specific case.
- However, this becomes a question of **time management**, metaphorically using a machete to slice butter.
- At what point is doing the work less time consuming than generating a document with?

Citations & Generative AI

Using ChatGPT to locate and generate citations encourages both students and faculty to use Generative AI responsibly. Think about how you can use citation to regulate the use of AI in your classroom. Exercising the following practices will promote ethical use and uphold academic regulations.

- Using AI to Cite a web page/document/pdf
- Using AI to Locate Sources
- Using AI to cite the chatbot itself

Using AI to Cite a Webpage

A student is searching the web and eventually find an article that they believe is interesting. They want to use “[Quantum computers: how do they work?](https://www.polytechnique-insights.com/en/columns/science/quantum-computers-where-are-we-today)” By Landry Bretheau to cite for their research. We can use a GenAI chatbot to help us cite this source.

Prompt: I want to cite an article that I'm reading online. Can you help me cite the article in MLA Format?

Here is the link:

<https://www.polytechnique-insights.com/en/columns/science/quantum-computers-where-are-we-today>

Response: Bretheau, Landry. "Quantum computers: how do they work?" Polytechnique Insights, 2 July 2021
<https://www.polytechnique-insights.com/en/columns/science/quantum-computers-where-are-we-today/> Accessed 18 Jan. 2025.

Using AI to Locate Sources

Prompt: How does LVaR compare with VaR?

Response: **LVaR (Liquidity-Adjusted Value at Risk)** extends **VaR (Value at Risk)** by incorporating liquidity risk, accounting for price impacts, bid-ask spreads, and transaction costs. While VaR estimates potential losses under the assumption of cost-free liquidation, LVaR provides a more realistic risk assessment, especially for large or illiquid positions. This makes LVaR more accurate during market stress, whereas VaR may underestimate losses. LVaR is essential for portfolios with liquidity constraints, offering better insights for risk management and stress testing.

A student uses ChatGPT to locate resources from the conversation they've generated

Prompt: Provide me with a source that supports this statement

Response: Botha, M. (2008). [Portfolio Liquidity-Adjusted Value-At-Risk](#). *South African Journal of Economic and Management Sciences*, 11(2), 203–213.

Citing a Chatbot

Prompt: How would I cite this chat?

Response: APA 7 Citation:

ChatGPT. (2025, January 18). [Your specific question or topic discussed].

OpenAI. Retrieved from [URL, if available]

Example:

ChatGPT. (2025, January 18). Proteins contributing to Chronic Traumatic

Encephalopathy (CTE). OpenAI. Retrieved from

<https://chat.openai.com/>

In the instance that the bot's functionality and or style of structure is implemented within your idea, it is wise to include the bot in your reference list

It is up to you!

It is widely understood that Generative AI tools do **hallucinate**; Meaning, they may output information that is false. It is then up to the user to either accept or deny this information. It is ultimately the user's responsibility to ensure that the information and data that they provide to fulfill their task is eligible and accurate. The responsibility to uphold this standard should be extended through all students, faculty, and staff, building a united understanding of AI regulations and expectations. Considering these precautionary measures ensures a safe and productive learning environment in the age of AI.

Thank you for your participation!

- Today's workshop and lunch sponsored by the Center for Digital Civil Society and MS-AAI Program.



**Questions,
Discussions,
Feedback**