## ### Assignment 3: AI Tool Exploration and Prompt Engineering

\*\*Rationale:\*\*

This assignment introduces students to specific AI tools and the concept of prompt engineering, teaching them how to effectively interact with AI systems.

\*\*Objectives:\*\*

- Explore and experiment with AI tools relevant to students' disciplines.

- Understand the importance of prompt engineering in obtaining desired outputs from AI systems.

- Develop skills in crafting effective prompts.

\*\*Activities:\*\*

1. \*\*Tool Exploration:\*\*

- Students will choose an AI tool (e.g., ChatGPT, DALL-E) and explore its features and capabilities.

- \*\*Assessment:\*\* Students will complete a worksheet documenting their findings, including the tool's strengths and limitations.

2. \*\*Prompt Engineering Workshop:\*\*

- A workshop on prompt engineering where students learn techniques for crafting effective prompts.

- \*\*Assessment:\*\* Students will participate in hands-on exercises, generating outputs from AI tools using various prompts.

3. \*\*Prompt Engineering Assignment:\*\*

- Students will create a set of prompts designed to achieve specific goals (e.g., generate creative content, solve a problem) and submit the AI-generated outputs.

- \*\*Assessment:\*\* Prompts and outputs will be evaluated based on clarity, effectiveness, and creativity.

# ## Handout: Progressive Assignments on Generative AI

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\*\*Objectives:\*\*

- Explore and experiment with AI tools.

- Understand prompt engineering.

- Craft effective prompts.

\*\*Activities:\*\*

1. \*\*Tool Exploration:\*\*

- Explore AI tools.

- \*\*Assessment:\*\* Complete a worksheet documenting findings.

2. \*\*Prompt Engineering Workshop:\*\*

- Participate in a workshop on crafting prompts.

- \*\*Assessment:\*\* Hands-on exercises with AI tools.

3. \*\*Prompt Engineering Assignment:\*\*

- Create and submit prompts with AI-generated outputs.

- \*\*Assessment:\*\* Evaluated on clarity, effectiveness, and creativity.

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# #**# Models & Examples**

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- Craft effective prompts.

\*\*Activities and Steps:\*\*

1. \*\*Tool Exploration:\*\*

- \*\*Steps:\*\*

1. Choose an AI tool to explore (e.g., ChatGPT, DALL-E).

2. Experiment with the tool, noting its features and capabilities.

3. Complete a worksheet documenting your findings.

- \*\*Assessment:\*\* Complete the worksheet documenting the tool's strengths and limitations.

- \*\*Example Worksheet Entry:\*\*

"Tool: ChatGPT

Strengths: Generates coherent text, useful for brainstorming and writing assistance.

Limitations: Sometimes produces inaccurate or biased information.

Ethical Considerations: Ensuring accuracy and preventing misuse of generated content."

2. \*\*Prompt Engineering Workshop:\*\*

- \*\*Steps:\*\*

1. Participate in a workshop on crafting effective prompts.

2. Practice creating prompts and generating outputs using the AI tool.

3. Share your experiences and learnings with peers.

- \*\*Assessment:\*\* Participation in hands-on exercises with AI tools.

- \*\*Example Prompt and Output:\*\*

"Prompt: 'Write a short story about a hero overcoming an obstacle.'

Output: 'Once upon a time, in a land far away, a young hero named Aria faced a formidable dragon. Despite the odds, Aria's bravery and intelligence led to the dragon's defeat, bringing peace to the kingdom.'"

3. \*\*Prompt Engineering Assignment:\*\*

- \*\*Steps:\*\*

1. Develop a set of prompts to achieve specific goals (e.g., generate creative content, solve a problem).

2. Use the AI tool to generate outputs based on your prompts.

3. Submit the prompts and generated outputs.

- \*\*Assessment:\*\* Evaluated on clarity, effectiveness, and creativity.

- \*\*Example Prompts and Outputs:\*\*

"Prompt: 'Generate a marketing tagline for a new eco-friendly product.'

Output: 'Sustainable Solutions for a Greener Tomorrow.'

Prompt: 'Summarize the main points of an article on climate change.'

Output: 'Climate change is a pressing global issue, driven by greenhouse gas emissions. Key points include rising temperatures, melting ice caps, and the need for renewable energy sources.'"

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# **## Readings, Cases, Problems**

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- Understand prompt engineering.

- Craft effective prompts.

\*\*Activities and Steps:\*\*

1. \*\*Tool Exploration:\*\*

- \*\*Steps:\*\*

1. \*\*Suggested Tools:\*\*

- ChatGPT (available on OpenAI's website)

- DALL-E (available on OpenAI's website)

- Google Bard

2. Experiment with the tool, noting its features and capabilities.

3. Complete a worksheet documenting your findings.

- \*\*Assessment:\*\* Complete the worksheet documenting the tool's strengths and limitations.

- \*\*Example Worksheet Entry:\*\*

"Tool: ChatGPT

Strengths: Generates coherent text, useful for brainstorming and writing assistance.

Limitations: Sometimes produces inaccurate or biased information.

Ethical Considerations: Ensuring accuracy and preventing misuse of generated content."

2. \*\*Prompt Engineering Workshop:\*\*

- \*\*Steps:\*\*

1. Participate in a workshop on crafting effective prompts.

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- \*\*Assessment:\*\* Participation in hands-on exercises with AI tools.

- \*\*Example Prompt and Output:\*\*

"Prompt: 'Write a short story about a hero overcoming an obstacle.'

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3. \*\*Prompt Engineering Assignment:\*\*

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# **## Deeper Models**

## ### Assignment 3: AI Tool Exploration and Prompt Engineering

\*\*Prompt Engineering Assignment Example:\*\*

\*\*Prompts and Generated Outputs:\*\*

\*\*Prompt 1:\*\*

"Generate a marketing tagline for a new eco-friendly product."

\*\*Output 1:\*\*

"Sustainable Solutions for a Greener Tomorrow."

\*\*Prompt 2:\*\*

"Summarize the main points of an article on climate change."

\*\*Output 2:\*\*

"Climate change is a pressing global issue, driven by greenhouse gas emissions. Key points include rising temperatures, melting ice caps, and the need for renewable energy sources."

\*\*Analysis:\*\*

The first prompt aimed to create a concise and impactful marketing tagline for an eco-friendly product. The generated output effectively conveys the product's environmental focus and future-oriented benefits, making it suitable for promotional materials. The second prompt sought to summarize an article on climate change. The output provides a clear and accurate summary of the key points, demonstrating the AI's ability to condense complex information into a digestible format.

\*\*Reflections:\*\*

This exercise highlights the importance of crafting precise and clear prompts to guide AI-generated content. Effective prompt engineering requires understanding the desired outcome and providing sufficient context for the AI to generate relevant responses. Through practice, one can develop the skills to create prompts that yield high-quality outputs, enhancing the utility of AI tools in various applications.

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