Types AI Critique Assignments

Examples of AI Critique Assignments

Professors can use AI-generated responses to facilitate learning activities, such as debates, simulations, peer reviews, and critical thinking exercises. These activities encourage students to analyze, critique, and reflect on AI outputs, fostering deeper engagement, critical evaluation skills, and practical application of course concepts in an interactive and adaptive way.

Learn to use UD's AI Critique tool in Canvas

Have trouble coming up with your own use case for UD's AI Critique tool in Canvas? Open Gemini or ChatGPT and input the following prompt: "I am using a tool called AI Critique where I, a professor, give AI a prompt for my [input subject area] class. The AI generates a unique response to the prompt for each of the students in my class. I want the activity to be a [input type of activity, e.g. debate, simulation, etc.]. Please help me come up with a prompt for the AI, instructions for the students, and questions the students should answer while evaluating the AI-generated response."

Use the links below to jump to descriptions and examples of activities.

Debate Preparation

Description: The AI generates arguments for or against a specific topic, and students critique or expand upon them.
Example:

- **Subject Area:** Political Science

- **Prompt for AI:** Write an argument in favor of abolishing the Electoral College and adopting a national popular vote. Focus on fairness, representation, and alignment with democratic principles. Provide three key points to support this position.
- **Secondary Instructions**: Intentionally include something irrelevant
- **Student Instructions:** Critically analyze this argument, evaluate its strengths and weaknesses, and use it to prepare for a debate. You will build on the AI's points, identify potential counterarguments, and refine your stance on the issue.
- **Questions for Student:**
    - What counterarguments might someone defending the Electoral College present?
    - What irrelevant information is in the AI's response that you might identify in a counterargument?
    - How would you respond to claims that the Electoral College protects smaller states' interests or prevents regionalism?
    - What would be the potential challenges or unintended consequences of abolishing the Electoral College? How could they be addressed?

Case Study

Description: The AI presents students with a detailed, real-world or hypothetical scenario requiring them to analyze data, identify key issues, and apply subject-specific knowledge to propose solutions or make informed decisions.
Example:

- **Subject Area:** Biology
- **Prompt for AI:** Describe a scenario in which a population of insects develops resistance to pesticides. Include data showing changes in allele frequencies over time.
- **Student Instructions:** Review the data table or graph showing changes in allele frequencies over multiple generations. Look for trends, such as an increase in the frequency of resistance alleles and a decrease in susceptible alleles. Analyze the data to determine if evolution via natural selection has occurred.
- **Questions for Student:**
    - What patterns or trends do you observe in the data regarding allele frequencies?
    - How does the change in resistance allele frequency support or refute the occurrence of natural selection?
    - What selective pressures are influencing the insect population in this scenario?
    - How might genetic variation and mutation contribute to the development of resistance?
    - What did you learn about the relationship between human activity and evolutionary processes?

Error Detection and Correction

Description: Strengthen critical thinking by asking students to evaluate and fix deliberate mistakes.
Example:

- **Subject Area:** Chemistry
- **Prompt for AI:** Write a lab procedure for synthesizing aspirin (acetylsalicylic acid) from salicylic acid and acetic anhydride. Introduce three deliberate errors into the procedure related to safety protocols, chemical measurements, or reaction steps. Ensure the errors are realistic and would lead to unsafe or unsuccessful synthesis. The procedure should also include detailed steps, such as setting up the apparatus, reacting the chemicals, and purifying the product.
- **Secondary Instructions**: Intentionally include something incorrect
- **Student Instructions:** Carefully read the AI-generated lab procedure for synthesizing aspirin. Pay attention to details about safety protocols, equipment setup, measurements, and reaction steps.
- **Questions for Student:**
    - Locate and document the errors in the lab procedure. Categorize the errors as related to safety, chemical measurements, or reaction steps. For each error, explain why it is incorrect and describe the potential consequences of following the flawed procedure.
    - How would you revise the procedure to ensure safety in the lab?
    - How did this activity help you better understand the importance of precision and safety in chemistry?
    - What strategies would you use to avoid similar errors when designing or following a lab procedure?

Data Analysis and Interpretation

Description: Provide experimental or theoretical data for students to analyze.
Example:

- **Subject Area:** Materials Engineering
- **Prompt for AI:** Provide a dataset of stress-strain data for a metal alloy that includes measurements of stress and strain from a tensile test. Include details such as the material's elastic modulus, yield strength, ultimate tensile strength, and fracture point. Add a slight inconsistency in one part of the data (e.g., an unexplained jump in stress) to challenge students to analyze and interpret the results critically. Include relevant background information about the material and its potential applications.
- **Student Instructions:** Examine the stress-strain dataset provided by the AI. Note key points on the graph or table, such as the elastic region, yield point, ultimate tensile strength, and fracture point.
- **Questions for Student:**

    - What are the material's elastic modulus, yield strength, and ultimate tensile strength based on the data?
    - How do these properties compare to the expected performance for similar materials?
    - What anomalies or inconsistencies did you observe in the dataset?
    - Based on your analysis, would this material be suitable for its intended application? Why or why not?
    - What additional testing or data might you need to confirm your conclusion?

Simulation/Role-Playing

Description: The AI takes on a persona or role, and students interact with it in a simulated scenario.
Example:

- **Subject Area:** Management
- **Prompt for AI:** AI, you are an employee who is frustrated with unclear expectations, lack of feedback, and feeling undervalued by your manager. Draft a formal email to your manager explaining your concerns and requesting a meeting to discuss how to improve communication and support for your role.
- **Student Instructions:** As the Manager for this employee, evaluate the employee's concerns, plan an effective response, and propose actionable steps to address the issues raised.
- **Questions for Student:**
    - What are the main concerns raised by the employee (unclear expectations, lack of feedback, feeling undervalued)?
    - How might their communication style affect your approach to addressing their concerns?
    - How would you acknowledge the employee's concerns to make them feel heard and valued?
    - What specific steps would you take to clarify expectations and provide regular feedback?
    - What changes would you implement in your management style or team processes to prevent similar issues in the future?
    - Compose a professional email response to the employee.

Critical Thinking and Evaluation

Description: Challenges students to analyze, assess, and respond to arguments or ideas, developing their ability to reason logically, identify strengths and weaknesses, and construct thoughtful, evidence-based perspectives.

Example:

- **Subject Area:** Philosophy
- **Prompt for AI:** Write a philosophical argument defending the idea that moral relativism is the best framework for understanding ethical behavior across cultures. Base the argument on principles such as cultural diversity, the absence of universal moral truths, and the role of societal norms in shaping morality. Include three main points and at least one potential counterargument to your position, along with a rebuttal.
- **Student Instructions:** Critically evaluate this argument, assess its strengths and weaknesses, and develop your own reasoned response to the philosophical position.
- **Questions for Student:**
    - What are the strongest points in the AI's defense of moral relativism? Why are they persuasive?
    - Are there any logical flaws, oversights, or questionable assumptions in the argument?
    - What alternative counterarguments might be raised against moral relativism, and how could they be addressed?
    - Does moral relativism adequately account for ethical behavior across diverse cultures? Why or why not?
    - How would you refine or challenge the argument to make it more compelling?

Problem-Solving Scenarios

Description: The AI outlines a problem, and students propose or critique solutions.
Example:

- **Subject Area:** Nursing
- **Prompt for AI:** Generate a unique patient scenario that involves a medical or nursing problem requiring immediate assessment and intervention in a hospital setting. The patient should present with:
    - At least two chronic health conditions (e.g., hypertension, diabetes, COPD, etc.).
    - One acute issue that needs urgent attention (e.g., chest pain, shortness of breath, severe pain, altered mental status, etc.).
    - Vital signs indicative of the acute issue.

  Ensure the scenario includes relevant details about the patient's medical history, symptoms, vital signs, and any observable behaviors or conditions (e.g., anxiety, lethargy, confusion). The case should be detailed enough for students to analyze and determine nursing priorities.
- **Student Instructions:** Review the patient scenario generated by the AI. Pay close attention to the details provided, including the patient's medical history, current symptoms, and vital signs. Based on your nursing knowledge, create a step-by-step plan to manage the patient's acute issue while addressing their chronic conditions. Use the guiding questions below to structure your response and ensure a comprehensive analysis.

- **Questions for Student:**
    - What are the immediate priorities in assessing the patient's condition?
    - Are there any missing details in the scenario that you would want to clarify?
    - What specific interventions would you implement to stabilize the patient?
    - Which members of the healthcare team would you involve, and why?
    - How could this experience improve your critical thinking and decision-making skills as a nurse?

Language Analysis

Description: The AI writes a paragraph with errors. Students practice analytical reading, grammar review, and creative rewriting skills to correct grammar, syntax, and other language mechanics errors.

Example:

- **Subject Area:** French
- **Prompt for AI:** Write a short paragraph (10–12 sentences) in French describing a fictional character's daily routine. Include at least three grammatical or syntax errors, one logical inconsistency, and one unusual or humorous detail. The tone should be lighthearted and engaging, with a mix of present and past tenses.
- **Secondary Instructions:** French Speaker
- **Student Instructions**: Carefully read the AI-generated paragraph. Identify and list any grammatical, syntactical, or logical errors in the text. Look for incorrect verb conjugations, gender or agreement mistakes, misused vocabulary or phrases, logical inconsistencies (e.g., "She wakes up at 7 p.m. to start her day"), etc.
- **Questions for Student**:
    - Rewrite the paragraph with the necessary corrections, ensuring it is grammatically accurate and logically consistent while retaining the original meaning.
    - How did identifying and correcting the errors deepen your understanding of French grammar and syntax?

Decision-Making Exercises

Description: The AI provides a scenario requiring a decision, and students justify their choices.

Example:

- **Subject Area:** Data Science
- **Prompt for AI:** Create a scenario where a data scientist must choose between optimizing a machine learning model for accuracy or fairness in a loan approval application. The model that prioritizes accuracy produces significantly higher approval rates for one demographic group over others, while the model that prioritizes fairness

equalizes approval rates across demographic groups but reduces overall accuracy by 15%. Include details about the stakeholders involved, such as the bank's profitability goals, regulatory requirements, and societal expectations for fairness. Frame the scenario so the decision requires a justification considering ethical, financial, and practical implications.

- **Student Instructions:** Carefully read the AI-generated scenario to understand the trade-offs between accuracy and fairness in the model. Consider the impact of each decision on stakeholders such as the bank, the loan applicants, and regulatory agencies.
- **Questions for Students:**
    - Choose whether to optimize the model for accuracy or fairness. Provide a detailed explanation of your choice, considering the ethical, financial, and societal implications.
    - How does your choice address potential biases or disparities in the model?
    - How does the trade-off between accuracy and fairness impact the model's overall performance?
    - What practical challenges might arise from implementing your chosen model?
    - What was the most challenging aspect of making this decision?

Comparison and Contrast

Description: The AI generates perspectives or analyses, and students compare them to their own ideas.

Example:

- **Subject Area:** Art History
- **Prompt for AI:** Create an argument asserting that Marcel Duchamp's Fountain (1917) should not be considered a legitimate work of art because it lacks originality and craftsmanship. Support this position by comparing it to traditional art forms and values.
- **Student Instructions:** Read the AI-generated argument critiquing Marcel Duchamp's Fountain. Compare the AI's argument to a contrasting perspective that supports Fountain as a legitimate work of art. (This perspective can draw on themes like conceptual innovation, challenging traditional values, or redefining the role of art.) Analyze the strengths and weaknesses of both positions and consider how they reflect broader debates about the definition and purpose of art.
- **Questions for Students**:
    - How does the AI response define traditional art values (e.g., originality, craftsmanship)?
    - How effectively does the AI compare Fountain to Renaissance paintings or classical sculptures?
    - If you were to argue that Fountain is a legitimate work of art, what points would you emphasize?
    - Which argument—critical or supportive—do you find more convincing, and why?

Persuasive Writing or Rhetoric Analysis

Description: The AI writes a persuasive argument, and students analyze its effectiveness.
Example:

- **Subject Area:** Sociology/Communication
- **Prompt for AI:** Write a persuasive argument asserting that social media platforms are more harmful than beneficial to modern society. Focus on their impact on mental health, social polarization, and misinformation. The argument should use rhetorical strategies (logos, ethos, pathos) to make its case and be structured as a critique suitable for an academic debate. Include at least one logical fallacy or weak argument, a questionable appeal to authority, and a potentially exaggerated emotional claim.
- **Student Instructions:** Read the AI-generated persuasive critique carefully. Identify the rhetorical strategies used in the argument (logos, ethos, and pathos). Look for examples where the AI employs evidence, emotional appeals, or authority to persuade the audience.
- **Student Questions:**
    - Where did the AI appeal to logos, ethos, and pathos rhetorical strategies?
    - Are there any logical fallacies (e.g., hasty generalizations, false dilemmas, slippery slope arguments)? How would you correct them?
    - Does the argument establish credibility by referencing valid sources or expertise?
    - Are there areas where the argument lacks clarity, coherence, or persuasiveness?
    - How did analyzing and revising this argument enhance your understanding of persuasive writing?

Brainstorming and Idea Generation

Description: The AI provides ideas or outlines, and students expand or refine them.
Example:

- **Subject Area:** Teacher Education
- **Prompt for AI:** Generate five innovative strategies for engaging diverse learners in a classroom setting. Each strategy should include a brief description, its intended outcome, and how it supports inclusivity. Focus on approaches that incorporate differentiated instruction, culturally responsive teaching, or technology integration.
- **Student Instructions:** Analyze these strategies, refine them, and expand on the ideas to create a more comprehensive and tailored approach to inclusive teaching.
- **Student Questions:**
    - Which of the AI's strategies do you find most effective? Why?
    - Are there any gaps or weaknesses in the strategies that need to be addressed?

    - Can you think of additional strategies that build on the ideas provided?
    - How can these new or expanded strategies address challenges such as language barriers, special needs, or varying levels of prior knowledge?
    - How did this activity help you develop your own approach to engaging diverse learners?

Reflection and Self-Assessment

Description: The AI generates a response based on a question about student development, and the students respond, comparing to their own experience.
Example:

- **Subject Area:** Student Development
- **Prompt for AI:** Describe how your study habits contribute to your academic success.
- **Student Instructions:** Carefully read the AI-generated response. Pay attention to the study habits it describes and how they are linked to academic success.
    - Which study habits described by the AI do you already practice?
    - Are there any habits in the AI's response that you think are particularly effective but haven't yet tried?
    - What one or two new habits will you commit to adopting or improving?
    - What strategies will you use to track your progress and ensure consistency?