Course Outline Activity

NC STATE DELTA | AI COURSE ASSISTANT

Your AI Course Assistant: Create a Basic Course Outline Using Generative AI

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You may make a copy of this document to edit.

Overview

The purpose of this activity is for you to use generative AI to help you create a basic course outline that divides the course into major topics and subtopics called "modules." (Note: The term "module" is used to refer to a smaller learning unit within a course. You may use different terminology such as weeks, units, lessons, or something else.)

Directions

1. For this activity you will need a list of course-level learning objectives with module-level learning objectives that support them. *(See AI Course Assistant: Learning Objectives if you need help creating learning objectives.)*
2. Log into a generative AI (gen-AI) tool such as Copilot, Gemini, or ChatGPT.
    - If you are already in an AI chat session where you just created learning objectives, you can remain in the same session or start a new one.
    - Alternatively, experiment with using a different gen-AI tool for the following activity.
3. Copy and paste the generic prompts (below) into the gen-AI tool. Replace the bracketed and highlighted text with information specifically tailored to your course.
4. For the first time, you can exclude the "Examples" section to see what you get.

Create a Course Outline

Generic Prompt

AI Role and Context: You are an instructor of a #-credit-hour [introductory/intermediate/advanced] level [undergraduate/graduate] course about [course title/topic]. You need to create a course outline that breaks down the course content into major topics and subtopics that can be taught in a modular format.

Knowledge: The duration of the course is [#] weeks. Use knowledge related to common course topics in [course title/topic]. [Optional: and the textbook [title] by [author] (or other main instructional material)]. Use these course-level and their aligned module-level learning objectives as a foundation: [insert or upload course objectives with corresponding module objectives].

Task: Create a basic course outline including [3-5] major topics that represent the high-level structure of the course content. Identify subtopics under each major topic. Integrate the provided module objectives into the appropriate subtopics.

Output: Organize the topics, subtopics and module objectives into a bulleted list. Rename the subtopics as [modules/units/weeks/lessons] and number them. Begin each module objective with the prefix [“MO”] and number them beginning with the module number as in this example: [MO] 3.2. After each module objective, list the CO each module objective is aligned with. List the course objectives at the top of the course outline.

Parameters: [Optional: The number of modules can be less than the number of weeks. Any module may last more than one week.]

Examples: [Optional: Include examples of course topics and subtopics]

Prompt Example

AI Role and Context: You are an instructor of a 3-credit-hour introductory level undergraduate course about environmental science. You need to create a course outline that breaks down the course content into major topics and subtopics that can be taught in a modular format.

Knowledge: The duration of the course is 16 weeks. Use knowledge related to common course topics in introductory environmental sciences and the textbook Environmental Science: Foundations and Applications by Emily P. Harris. Use these course-level learning objectives and their aligned module-level learning objectives:

CO1: Explain fundamental concepts and principles of environmental science, including ecological systems, biodiversity, and human-environment interactions.

- Describe the key components of ecosystems and their interactions. (CO1)
- Identify the characteristics and functions of major biomes. (CO1)
- Summarize the principles of energy flow and nutrient cycling in ecological systems. (CO1)

- Compare different levels of biodiversity and their importance to ecosystem health. (CO1)
- Discuss the role of human activities in shaping natural environments. (CO1)

CO2: Analyze the causes and consequences of environmental issues such as climate change, pollution, resource depletion, and habitat loss.

- Examine the primary sources and impacts of air, water, and soil pollution. (CO2)
- Differentiate between renewable and nonrenewable resources and their rates of depletion. (CO2)
- Investigate the scientific evidence and effects of climate change on global and regional scales. (CO2)
- Assess the ecological and societal impacts of habitat destruction and species extinction. (CO2)
- Interpret case studies illustrating the consequences of environmental degradation. (CO2)

CO3: Evaluate the effectiveness of various environmental policies, regulations, and sustainable practices in addressing environmental challenges.

- Describe key national and international environmental policies and treaties. (CO3)
- Analyze the effectiveness of environmental laws and regulations in mitigating ecological damage. (CO3)
- Compare different sustainability strategies for reducing human environmental impact. (CO3)
- Evaluate case studies of successful and unsuccessful environmental management practices. (CO3)
- Propose policy recommendations based on scientific and economic considerations. (CO3)

CO4: Apply scientific methods and critical thinking skills to investigate environmental problems and propose evidence-based solutions.

- Define the steps of the scientific method and their application to environmental research. (CO4)
- Conduct simple experiments or field investigations related to environmental science. (CO4)
- Analyze environmental data to identify trends and patterns. (CO4)
- Formulate evidence-based hypotheses about environmental problems. (CO4)
- Design potential solutions to local or global environmental challenges using scientific reasoning. (CO4)

CO5: Interpret and communicate environmental data using quantitative and qualitative approaches to support decision-making.

- Read and interpret environmental graphs, charts, and statistical data. (CO5)
- Use basic quantitative methods to analyze environmental trends. (CO5)
- Summarize research findings in written, oral, or visual formats. (CO5)
- Explain environmental data to different audiences, such as policymakers or the general public. (CO5)
- Critique sources of environmental information for credibility and accuracy. (CO5)

CO6: Assess the role of social, economic, and ethical considerations in shaping environmental sustainability and conservation efforts.

- Describe the relationships between economic development and environmental sustainability. (CO6)
- Discuss the ethical implications of environmental decision-making. (CO6)
- Examine how cultural perspectives influence environmental policies and behaviors. (CO6)
- Analyze the trade-offs between environmental conservation and economic growth. (CO6)
- Evaluate real-world examples of environmental justice issues. (CO6)

CO7: Collaborate in interdisciplinary discussions and projects to address real-world environmental issues from multiple perspectives.

- Participate in group discussions on contemporary environmental challenges. (CO7)
- Engage in team-based projects that propose solutions to environmental problems. (CO7)
- Integrate knowledge from multiple disciplines to address environmental issues. (CO7)
- Debate different viewpoints on controversial environmental topics. (CO7)
- Present findings and recommendations collaboratively to an audience. (CO7)

Task: Create a basic course outline including 3-5 major topics that represent the high-level structure of the course content. Identify subtopics under each major topic. Integrate the provided module objectives into the appropriate subtopics.

Output: Organize the topics, subtopics and module objectives into a bulleted list. Rename the subtopics as modules and number them. Begin each module objective with the prefix “MO” and number them beginning with the module number as in this example: MO 3.2. After each module objective, list the CO each module objective is aligned with. List the course objectives at the top of the course outline.

Parameters: The number of modules can be less than the number of weeks. Any module may last more than one week.

Reflect and Revise

1. Does the course outline reflect a logical course structure?
2. Consider using additional follow-up prompts to get a course outline that fits your needs. Examples:
    a. Reduce the number of modules to eight or fewer.
    b. Combine Module # and Module #
    c. Add module learning objectives as needed to reflect foundational knowledge needed for each module.
    d. Revise the Module # objectives to more accurately reflect the Module # topics.

When finished, copy and paste the course outline into a new document.

Discussion Questions

- How would you rate the AI-generated course outline on a scale of 1 to 5?
    - 1=Poor 😡; I hate it, I would not use this at all.
    - 5=Exceptional 😍; Phenomenal, I would use it as-is.
- What is something you wanted to change about the AI output?

Next Step

Use your learning objectives and course outline to develop a course map:
1.3 AI Course Assistant: Course Map