

# AI Tools for Course Design

## WHAT IS THIS RESOURCE?

This resource provides ideas and examples of how faculty can use AI generators to generate ideas for the design of syllabi, assignments, and learning activities.

## HOW DO I USE IT?

Review the considerations and examples below when beginning to design or revise a course. AI tools may save faculty time in generating ideas for course materials. [CET](https://cet.usc.edu/contact-us/) is available for individual, departmental, and school consultations to brainstorm using AI generators.

### What are AI Generators?

Artificial Intelligence (AI) Generators are computer programs that can synthesize information drawn from different sources to produce text, visual or musical products that, on a basic level, are comparable to those created by humans. In general, a user enters a prompt (text, image or music) that the AI generator uses to produce the requested output. For ways to incorporate AI generators in student assignments, please view the CET resource: [Using AI text, image, and music-generating tools in your courses](https://cet.usc.edu/teaching-resources/using-ai-text-image-and-music-generating-tools-in-your-courses/). CET has curated a list of the latest AI tools, articles, and videos at [AI Generators in the news](https://cet.usc.edu/ai-text-and-image-generators-in-the-news/).

### Find an AI tool for your needs.

There are many AI generators from which to choose. CET recommends exploring a variety of AI tools to identify the ones that work best for your needs.

* A list of AI tools for various disciplines and objectives can be found at [Future Tools](https://www.futuretools.io/).
* Videos on various AI tools can be explored on [Matt Wolfe’s Youtube](https://www.youtube.com/%40mreflow).
* Ethan Mollick, an Associate Professor at the Wharton School of the University of Pennsylvania and Academic Director of Wharton Interactive, frequently writes on AI in education in his Substack, [One Useful Thing](https://substack.com/%40oneusefulthing).

### How can AI help faculty?

AI generators serve as helpful tools for **idea generation**. CET encourages faculty to experiment with using AI Generators as a timesaving tool or a starting point. AI will not replicate the work faculty do. Material created by AI generators will need critical analysis and revisions, by a human!

[CET is available to assist faculty](https://cet.usc.edu/contact-us/) in creating course materials aligned with course learning objectives including comprehensive rubrics, assessments, instructional activities, and syllabi.

### Considerations for using AI.

AI are powerful tools for generating ideas, assisting in automation and efficiency, and complex problem-solving. There are several considerations when engaging with AI:

* AI tools are powerful but are limited by the information and data they have been provided. AI may not always provide accurate information and should always be fact-checked.
* Provide detailed prompts. Specific, well-defined prompts will assist the AI in creating more accurate and relevant information.
* Treat any sensitive or personal information with the same caution and care you would in other circumstances. Avoid sharing personal or sensitive information in prompts.
* Model lifelong learning skills for your students by staying current with the advancements and changes in AI.
* Ethical considerations of AI use include copyright violations, intellectual property infringement, or plagiarism.

Prompts (the instructions given to AI generators) may be written in many different ways to generate a response from an AI generator. Consider specifying specific roles and tasks for the prompt, entering prompts that describe your role, and descriptions of what you want for a response. **Responses will need to be iterated using the AI generator prompts until it meets expectations.** Consider using the Role-Task-Format (RTF) framework for prompting:

* Role: Indicate the role to adopt when responding.
* Task: State the specific task required.
* Format: Define the desired structure of the output.

| **Role** (Indicate the role to adopt when responding). | **Task** (State the specific task required). | **Format** (Define the desired structure of the output). |
| --- | --- | --- |
| Professor, Student, Graduate Student, TA, Researcher, Expert, Inventor, Marketer, Journalist, Copywriter, Entrepreneur, Project Manager, Accountant. | Learning Objectives, Discussion Questions, Email, Article, Speech, Summary, Business Plan, Brainstorm Ideas, Step-by-step Guide. | Rubrics, Tables, Graphs, Diagrams, Checklists, Bullet Points, Code (e.g. Python), Images, Multiple Choice Questions. |

### Examples of AI generator prompts to create ideas for course materials.

AI generators may be used to create faculty resources related to course design, instruction, and evaluation. Below are examples of prompts that may assist faculty to create course materials using prompts in AI Generators.

* Write 5 learning objectives for the undergraduate engineering course, Introduction to Robotics.
* Create 5 learning objectives for a graduate music history course on composers of the 19th century. Topics in this course should include comparisons of the influences of Italian, French, Folk traditions, English Renaissance, and Arab composers. It should also highlight the influence of Black and women composers.
* Create a series of class discussion questions for an upper-division university communications course examining the role of communication in developing and implementing business strategy. Begin with novice questions, then intermediate, and end with advanced questions.
* Create a series of class discussion questions for a graduate university course on neuroaffective disorders of aging. Topics should include depression, anxiety, substance use, cognition, vascular disease, neurological disorders, brain structures, and caregiving.
* Please create an assignment description for a freshman seminar class on using mindfulness techniques in a medical training program.
* Create an assignment description for a business valuation case study for executive MBA students.
* Develop an assignment description for a university course called Hands-on AI with a focus on data mining techniques that could be applied to various industries.
* Give 3 ideas for small group projects of 5 students per group for a course on business finance for MBA students.
* Outline a debate on law and homelessness for law students.
* Create a 20-question multiple choice test bank for a university course in vector calculus with an answer key.
* Create three ideas for an assessment for a university hip-hop choreography and performance course.
* Students will conduct a case study analysis on a business valuation. Create an analytic rubric in grid format for this assignment that includes criteria for analysis, content, and argument.

Prompts such as the ones above may generate ideas for course materials. More information on how to design a course may be found in the CET Resource, [Steps to plan, design, and develop your course](https://cet.usc.edu/teaching-resources/steps-to-plan-design-and-develop-your-course/). Additional resources include: [Learning objectives,](https://cet.usc.edu/teaching-resources/writing-learning-objectives/) [Class discussion questions](https://cet.usc.edu/teaching-resources/discussion-types/), [Assignment descriptions](https://cet.usc.edu/teaching-resources/sample-assignment-descriptions/), [Small group work](https://cet.usc.edu/teaching-resources/effective-groupwork/), and [Assessments](https://cet.usc.edu/teaching-resources/blooms-taxonomy/).

### Additional examples of AI use.

## Class Session Plans

Creating a plan for each class session can help ensure learning objectives are met within the time allotted, assignments are aligned with objectives, and there are seamless transitions between topics. Below are two examples of AI prompts to assist faculty in developing class session plans.

* I am a university professor preparing a one-hour class for my undergraduate finance majors on compound interest. The students have an understanding of simple interest, but this would be their first in-depth exposure to compound interest. By the end of the lesson, I want students to be able to 1. define compound interest. 2. Describe the difference between simple and compound interest. 3. Calculate compound interest using a formula. 4. Identify real-world implications of compound interest in corporate finances. I need a detailed session plan that includes an introduction to the topic, a main group activity, and a closing activity to assess student understanding.
* I am a university professor in a master's level public health program. I am preparing a 90-minute class for students studying health policy in the United States. Most students have a novice-level understanding of policy and need to create a policy tool kit on an emerging policy issue of their choice. By the end of the lesson, students should know 1) how to identify a policy issue, 2) what items should be included in a policy toolkit, and 3) how to identify policymakers and recipients of the toolkit. Please provide me with a detailed session plan.

## Image Creation

Certain AI generators have the capacity to generate images. Image creation may be helpful in creating images that do not exist or are difficult to obtain. Image creation may also be helpful in creative inspiration. Examples of prompts for image creation include:

* Please generate an abstract image that combines vibrant colors and geometric shapes. I'm looking for a visually striking composition that conveys a sense of energy and dynamism. Feel free to experiment with different patterns, textures, and arrangements. The image should inspire ideas for a modern and visually engaging poster design.
* Create a life-like image of a female Asian dentist conducting an exam on an African American patient.
* Please create images of university students practicing yoga.
* Please create an image of the USC campus with fireworks overhead. The fireworks should spell out “USC”.

### Additional support.

For more information on creating course materials, visit [CET’s website](https://cet.usc.edu/) or [schedule a meeting](https://cet.usc.edu/contact-us/) with a member of the CET team.