

# Advanced Generative AI for Teaching and Learning



Enhancing teaching with AI tools and techniques to increase student learning, engagement, and success

Lumen Circle's Advanced Generative AI for Teaching and Learning fellowship explores the transformative power of using AI from a wide range of perspectives – from prompt engineering, to creating with images, audio, and video, to creating custom chatbots and analyzing data for your course.

Throughout the fellowship, you will learn how AI tools can help you make learning more engaging, save time on administrative and other tasks, as well as help students prepare for their future AI use in the workplace. This Circle is for faculty who have been using Gen AI in their teaching materials, with students, and want to deepen their Gen AI use and practice.

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<https://lumenlearning.com/what/lumen-circles-program-descriptions/>



## Benefits of Using AI in Teaching

- AI-powered tools can help personalize learning and engagement for students.
- AI has the potential to transform the teaching and learning experience, making it more effective and engaging for both students and instructors.
- AI can be used to create interactive and engaging learning experiences that keep students motivated and interested in the material.
- AI can deepen #Higher Order Thinking skills when used appropriately

# Weekly descriptions for Advanced AI Circle:



## Orientation

Complete your profile, familiarize yourself with the platform, your Circle mates, and the Circle focus. Meet with your facilitator and get ready to start your Circle.

### **Week 1: Overview**

Learn about the Lumen Reflective Practice model including using Appreciative Inquiry (a strength-based approach), CoP, and meet each other. Define Large Language Models (LLM's) and create accounts in a few AI tools. Write your first reflection and comment on your 2 assigned reflections and with the 2 fellows reviewing your reflection.

### **Week 2: Prompt Engineering**

Explore the different reasoning and non-reasoning prompting models and practice using prompt examples with different AI tools to compare results. Then, experiment with planning a learning activity and report the inputs used and outputs generated. Report your findings and learnings in a reflection. Comment on your 2 assigned reflections and with the 2 fellows reviewing your reflection.

### **Week 3: Chat with a Knowledge Base**

Practice using Notebook LM and/or create a custom Chat GPT for your course to increase student engagement and learning. Create a plan in your reflection for using what you learned to enhance learning activities in your course. Comment on your 2 assigned reflections and interact with the 2 fellows reviewing your reflection.

### **Week 4: Discussion**

Worried about student privacy and how LLM's use your input as data? Learn about running a private generative AI program on your computer with LM Studio and Pocket AI to keep all input and output private. Then, reflect on what you learned and how you might or will use LM Studio in your course. Comment on your 2 assigned reflections and with the 2 fellows reviewing your reflection.

### **Week 5: Circle-wide Share Out**

Join the Circle-wide discussion on topics related to generative AI in education that interest you and then talk with others about the topics that arise. Ask questions! Share resources! Add tools you use! Support, learn from, and interact with all of your Circle mates this week.

### **Week 6: Creating Images**

Experiment with several AI tools for generating images. Practice creating images using different prompts and tools to enhance your teaching materials and approaches. Then, reflect on what you learned and plan to embed images in a learning activity. Comment on your 2 assigned reflections and with the 2 fellows reviewing your reflection.

### **Week 7: Creating Audio & Video**

Experiment with creating videos, spoken audio and voice cloning, and create music using various generative AI tools. Then, reflect on how you might or will use these tools to enhance student learning in your course. Comment on your 2 assigned reflections and with the 2 fellows reviewing your reflection.

### **Week 8: Data Analysis and Vibe Coding**

Analyze data and create small programs. These capabilities can save you a significant amount of time and empower you to do things you could never do on your own. Use AI tools to analyze class data using vibe coding (no coding knowledge and skills necessary) to create customized chatbots for your class. Comment on your 2 assigned reflections and respond to the 2 fellows reviewing your reflection.

### **Week 9: Meta-Reflection**

Reflect on your fellowship experience. What did you learn? What changes have you made in your teaching? What do you want to learn and do next? Write a reflection noting changes and growth in your teaching, new ideas and concepts you learned, and where you want to go next. Respond to your reviewers, and review your 2 assigned reflections. Celebrate finishing your fellowship!

## **Expected Outcomes of the Advanced Generative AI for Teaching and Learning Fellowship**

- Practice using a variety of Generative AI tools to create or remix text, audio, images, podcasts, and video.
- Create a custom LLM-powered chatbot for your course.
- Learn how to run Large Language Models on your desktop or laptop computer, ensuring your data stays private.
- Experience how AI tools can personalize learning, enhance engagement, increase higher order thinking, and give students valuable feedback.
- Plan to seamlessly integrate generative AI into your existing curriculum to create effective learning experiences or create a bank of activities to use for future classes.
- Engage in peer feedback and reflection sessions to improve your teaching practice and track your progress.
- Increase students' sense of belonging with activities that include prompts that promote many groups' points of view and real world experiences..
- Save time by using Generative AI tools, allowing you to spend more time engaging directly with your students.