

Artificial Intelligence (AI) for K-12 Teachers



Course Syllabus for K-12 Teachers



What You Will Learn

Unlock the potential of Artificial Intelligence (AI) to elevate your teaching practice and streamline daily tasks, enabling you to focus more on what truly matters—educating and inspiring your students.

COURSE SYLLABUS

Artificial Intelligence (AI) for K-12 Teachers

Number of Credits: 2 Credits

Course Overview

What is AI? AI stands for Artificial Intelligence. Artificial Intelligence is the intelligence of machines and software to solve complex problems that formerly only human intelligence could solve.

The word "Artificial" refers to the fact that this intelligence is restricted to man-made machines and software and does not represent actual human thinking, decision making, moods, intuition, self-awareness, and human consciousness. Everything in Artificial intelligence is artificial. If you walk into a room and you see two sets of fruit – with one set being organic fruit grown in your backyard, and the other set being made from plastic, the plastic fruit is called artificial because it was man made. In like manner, artificial intelligence is intelligence made by man and not organically grown.

The word Intelligence refers to the use of machines using algorithms that give machines the ability to solve complex problems that require multiple steps and are more advanced than simple computer programs that (a) perform searching (b) draw diagrams and (c) regurgitate simple output from simple input. The more complex AI tasks include – (a) winning a chess match, (b) producing a lesson plan for a teacher on the topic of the teacher's choice and (c) calculating the price of a home based on the sale price of homes in the area.

This course, while providing teachers an understanding of how to utilize AI for your needs, also has a strong cautionary component. Almost every lesson educates participants on how AI is merely a tool that must be wielded under the control, guidance, and mastery of the human educator. For instance, today there are many self-driving cars on the road that use AI to drive the car where it needs to go. These vehicles also use GPS maps to direct the car to its destination. Every good car manufacturer knows to put a warning message in the car's dashboard such as, "When using this car's autopilot, keep your hands on the wheel to avoid scenarios that our self-driving software cannot account for." For example, you may be driving such a vehicle, and it moves to the left to exit, not knowing that the night before, cylinder blocks were put at the exit of the freeway. If a driver does not keep his or her hands on the steering wheel, it is possible for a crash to occur. All drivers of self-driving cars must be ready to take over the driving to avoid a crash. In like manner, all teachers who use AI must be equipped with the view that AI is a tool that they can use but that must always remain under their control. Do not "hand over" your classroom to AI and do not have an unfiltered trust in the output that AI programs give you.

With all of that said – be prepared to be amazed at how much time Artificial Intelligence can save you. From the very early lessons, you will see how you can cut the time in half for creating lesson plans, coming up with ideas for what to do on "rainy days", how to have alternative ways for describing a new math concept, conduct interviews with historical figures from Abraham Lincoln to Kobe Bryant, and how to create quizzes and tests with full answers available for you. Of course you can play chess, hangman and monopoly with AI, but those are trite compared to its ability to help a young 5th grader learn Spanish.

In conclusion, you will be introduced to the world premier website for educators wanting to know how to set policy and give presentations on AI – for the sake of their classroom, their school and their district. This is a class you do not want to miss!

Course Outline

Unit 1: What is Artificial Intelligence (AI) and How Can Teachers Use It?

Unit 2: Guiding Students Toward an Ethical Use of AI

Unit 3: Saving Time by Providing Effective and Accurate Questions to ChatGPT

Unit 4: AI for Designing Lesson Plans

Unit 5: AI for Developing Relevant Scenarios for Students

Unit 6: AI for Fostering Critical Thinking, Creativity, Communication, and Collaboration

Unit 7: AI for Enhancing Learning in Specific Subjects

Unit 8: AI for Making Connections to STEM Learning

Unit 9: AI for Creating Visual Aids

Unit 10: AI for Developing Videos

Unit 11: AI for Personal Support, Scheduling, and Relief from Toxic Stress

Unit 12: Key Elements of an AI Presentation for School Staff

Unit 13: Final Project: Creating Your Own AI Presentation

Description of Activities

For each module please expect the following activities:

- Read through the lesson/session contents (including articles) and watch videos
- Take a short quiz on the material presented
- Complete a written assignment with open-ended responses
- Post your written responses on a discussion forum for interaction with others