

Next Level AI Skills for Educators

Course Description

This 15-hour course is intended to provide deeper understanding, advance critical thinking, and teach valuable skills around artificial intelligence (AI). It is appropriate for PreK-12 and higher ed educators and education leaders—across all content areas—who are comfortable with technology and technology integration, and who have a strong basic knowledge around AI uses in educational settings. While it's not required to have previously completed [ISTE U's AI Explorations for Educators](#) course, we strongly recommend participants have either completed that course or have a strong foundation of knowledge in AI for education. This course is meant to provide a more advanced dive into integrating AI experiences that allow students to create with AI technology and leverage AI for learning.

Course Structure

The *Next Level AI Skills for Educators* course is a 15 hour course, composed of 8 modules. This is an asynchronous course with suggested deadlines to maintain pacing. Each module consists of activities, readings, videos and an end-of-module assignment.

Course Goals and Outcomes

By the end of this course, you will be able to:

- Analyze AI technologies to determine their suitability for educational use.
- Explain how various AI algorithms and models work.
- Effectively use prompt engineering with AI text-to-image tools.
- Use generative AI to create media artifacts.
- Develop a custom GPT-based chatbot that supports the achievement of an educational goal.
- Train, test, and iterate on a machine learning model.
- Program an application that integrates an AI model using a student-friendly coding platform. (No previous coding experience needed!)
- Examine AI technologies to illuminate the tradeoffs around personalized applications.
- Explain some ways that AI is impacting the evolving design of new and emerging technologies, such as neurotechnology, extended reality, and robotics.
- Examine the ethical and societal impacts of AI technologies.
- Identify various ways that educators can integrate AI into learning environments, ranging from entry level to transformational uses.

Participant Profile

The *Next Level AI Skills for Educators* course is designed for K-12 educators, including classroom teachers, instructional coaches, and anyone who works directly with students and teachers in a K-12 learning environment.

ISTE Standards and Competencies

The course is designed and developed around ISTE's Standards, with a strong emphasis on the [ISTE Educator Standards](#), and [ISTE Student Standards](#).

Module Descriptions

MODULE 1: Opening up the Black Box

In this module, you will focus on the ways that various types of AI technologies can support us in reaching educational goals. We'll also explore the significance of academic integrity in the AI era and how to evaluate and curate AI tools for classroom use.

MODULE 2: Co-Creating with AI

In this module, you will explore a variety of generative AI media tools. You'll experiment with prompt engineering strategies for image generation and push the limits of current generative AI art tools. You also explore how educators are co-creating media artifacts - video, music, or slides - with the support of AI. In the process, you'll dive deep into how a very popular type of generative AI, diffusion models, work.

MODULE 3: AI for Learning, Writing, & Research

In this module, you'll examine how GPT-based models are influencing teaching, learning, and research applications. In the process, you'll look at possibilities and pitfalls of using LLMs and strategies for harnessing them most effectively.

MODULE 4: Data is the New Oil

In this module, you will explore discriminative machine learning through the lens of data science. In the process, you'll see why both training data and testing data must be accurate, relevant, consistent, and free from bias in order for AI to work effectively, especially in education.

MODULE 5: Using AI as Innovative Designers

In this module, you will discover how AI can support our work as good digital citizens. You will explore a variety of existing AI solutions that address local or global problems, and try out pathways for you and your students to create your own AI-powered technology solutions. In the process, you'll see how both discriminative and generative AI models might be used as part of a greater technology application to increase usability, enhance the user experience, and harness an AI model's capabilities for problem solving. Plus, you'll even design your own AI app!

MODULE 6: AI Personalization

In this module, you will explore how AI is able to use what it learns from trends in big data drawn from the vast collection of online forums, social media, websites, streaming services and apps in order to make specific recommendations and predictions for individual users.

MODULE 7: Exploring Human-AI Interactions and Innovations

In this module, you will explore new and emerging AI innovations. You'll consider how AI might be used in conjunction with other advanced technologies, such as wearable technology, neurotechnology, robotics, virtual reality, and the metaverse.

MODULE 8: AI & Transformation

In this module, you will think about AI technologies in the context of integration in your own educational institution or setting. You will consider how the various AI technologies and skills that you've learned about in this course might be applied to accomplish educational goals, especially transformational uses that accomplish goals that were previously difficult or even impossible for educators and students to achieve.

Completion Criteria

The course is designed to be completed in 15 hours and consists of 8 modules. Course completion is determined by submitting and earning satisfactory scores on all 8 end-of-module assignments. If an individual receives feedback that their submission is unsatisfactory for any assignment, they can incorporate the feedback from the instructor and resubmit the assignment before the end of the course to earn a satisfactory score.

Disclaimers

This course is a production of the International Society for Technology in Education (ISTE). This course contains examples and resource materials that are provided for participants' convenience and information. The inclusion of any material is not intended to endorse any views expressed, or products or services offered. These materials may contain the views and recommendations of various subject matter experts as well as hypertext links, and websites to information created and maintained by other public and private organizations. The opinions expressed in any of these materials do not necessarily reflect the positions or policies of ISTE. ISTE does not control or guarantee the accuracy, relevance, timeliness, or completeness of any outside information included in these materials.

NOTE: A variety of applications are highlighted throughout this course. Prior to using any of them with students, it is imperative that participants check the account requirements for each application against their school/district student data privacy policy to ensure the application complies with district policy. In addition, some applications' Terms of Service may require parental permission to be COPPA and FERPA compliant for students younger than 13 years of age. Before any student under the age of 18 accesses the Amazon Developer Portal, a parent or

legal guardian must create a developer account for that student. Content in this course is subject to change at instructor's or ISTE's discretion.