

Digital Age Teaching Seminar Course Summary

This course examines the integration, applications, and implications of artificial intelligence in K-12 educational settings. The course takes a comprehensive approach, beginning with foundational overviews of AI learning tools and ethical considerations, then drilling down into subject-specific applications across the core curriculum areas (science, math, English language arts, and social studies). The practical component introduces educators to actual AI-powered tools they can implement in their classrooms.

The course is designed to help educators understand both the theoretical landscape of AI in education and the practical tools available, while maintaining critical awareness of ethical challenges unique to working with young learners.

Course Readings

Citation	Topic
Heung Yue Yim, I., & Su, J. (2024). AI learning tools in K-12 education: A scoping review. <i>Journal of Computers in Education</i> , 11(1), 45-68. Read Article	Foundational overview of AI tools in K-12
Akgun, S., & Greenhow, C. (2021). Artificial intelligence in education: Addressing ethical challenges in K-12 settings. <i>AI and Ethics</i> , 2(3), 345-362. Read Article	Ethics of AI in K-12 education
Unpacking Epistemic Insights of Artificial Intelligence (AI) in Science Education. (2024). <i>Science & Education</i> , 33(2), 123-145. Read Article	AI in Science Education
Yi, L., Liu, D., Jiang, T., & Xian, Y. (2024). The effectiveness of AI on K-12 students' mathematics learning. <i>International Journal of Science and Mathematics Education</i> , 10(61). Read Article	AI in Mathematics Education
Huang, X., Zou, D., Cheng, G., Chen, X., & Xie, H. (2023). Trends, research issues and applications of AI in language education. <i>Journal of Educational Technology & Society</i> , 26(1), 112–131. Available via APA PsycNet.	AI in English Language Arts
Yetisensoy, O., & Rapoport, A. (2023). Artificial intelligence literacy teaching in social studies education. <i>Journal of Pedagogical Research</i> , 7(3), 1-20. Read Article	AI in Social Studies Education

AI Tools for Classroom Implementation

Tool	Primary Function
Khan Academy	Personalized learning experiences
Quill	AI-driven writing & grammar exercises
Duolingo	Adaptive language learning
Edmentum	AI-powered assessments & learning paths
DreamBox	Personalized math instruction
Socrative	Quiz creation & grading
Newsela	Leveled reading materials
NoRedInk	Grammar & writing practice
Canva for Education	Visual content creation
MagicSchool.ai	Teacher lesson planning & differentiation
Additional AI Tools for Students	Curated list of student AI tools