



# Course Overview

New and Emerging Technologies: AI in the 21st Century - Last Updated on August 28, 2025

## DESCRIPTION

### K-12 Content Area | Mission & Philosophy Statement

The mission is to ensure that students obtain a basic understanding of AI including its history, processes, current uses and ethical implications and are able to critically evaluate AI use throughout their lives. This understanding will prepare them to use AI responsibly in their personal, academic and professional lives and enable them to recognize how it is utilized for day to day activities and in the workplace. The skills obtained in this course will prepare students to ethically and efficiently navigate the modern AI infused landscape.

Philosophy: AI is a powerful interdisciplinary tool that has transformed society and industries but it comes with risks. Understanding how AI works is necessary to evaluate its contributions and the ethical questions around its use. AI will be an integral part of life and work and to use it to its fullest potential in a responsible and ethical manner, students need access, guidance and the opportunity to explore and be creative.

### Course Description

New and Emerging Technologies: AI in the 21st Century introduces students to the fundamentals of Generative Artificial Intelligence (Gen AI), focusing on how AI is transforming society and the skills needed to navigate this technological shift responsibly. Students will explore core concepts of AI, including how machines "learn" and make decisions, along with ethical considerations essential to developing and using AI responsibly. Key topics include machine learning, where students learn how algorithms build predictive models from data, and neural networks, which mimic the human brain to revolutionize fields such as healthcare and finance. Throughout the course, students will apply their AI knowledge to solve real-world problems, designing solutions that demonstrate both the potential and the ethical limitations of Gen AI technology.

## STANDARDS

### American Association of School Librarians (AASL) - National School Library Standards for Learners

- I.A.1.
- I.A.2.
- III.A.
- III.A.2.
- VI.A.1.
- VI.A.2.
- VI.A.3.
- I.B.3.
- I.C.1.
- II.C.1.
- II.C.2.
- I.D.1.
- III.D.1.
- VI.D.2.

### CSTA Computer Science - K-12 (2017)

- 3A-AP-13,
- 3A-IC-24,
- 3A-IC-26,
- 3A-IC-28,
- 3A-IC-29,
- 3A-IC-30,
- 3B-DA-05,
- 3B-AP-08,
- 3B-AP-10,
- 3B-IC-26,
- 3B-IC-27,
- 3B-IC-28,

### International Society for Technology in Education (ISTE) - National Technology Standards for Students



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(2016)

- 1
- 1a
- 1c
- 1d
- 3
- 3a
- 3b
- 3c
- 3d
- 4
- 4b
- 4d
- 5
- 5c
- 5d
- 6
- 6a
- 6b
- 6c
- 6d
- 7
- 7b
- 7c
- 7d

### COURSE OBJECTIVES

- Equip students with structured knowledge to navigate AI technologies.
- Empower students with the knowledge and ethical foundations to use AI effectively and responsibly in their academic and personal lives.

Students will be able to:

- Outline the key moments that led to the creation of modern Generative AI.
- Understand the fundamental processes of Generative AI.
- Identify AI use in current fields and industries.
- Analyze the ethical implications of modern AI use.

### ASSESSMENT TYPES

- Projects
- Discussions
- Reflections
- Debates
- Short answer questions built into various programs

### SUGGESTED METHODS OF INSTRUCTION

- Inquiry based learning
- Project based learning
- Cooperative learning
- Direct instruction



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## RESOURCES

District Approved Program Resources	District Approved Supplemental Resources	District Approved Technology Resources
<ul style="list-style-type: none"> <li>• <a href="#">News Literacy Project and Che</a> <a href="#">ckology</a></li> <li>• <a href="#">Stanford University</a></li> <li>• <a href="#">CodeHS</a></li> <li>• <a href="#">MIT</a></li> <li>• <a href="#">Code.org</a></li> <li>• <a href="#">Magic School</a></li> <li>• <a href="#">Ready AI</a></li> <li>• <a href="#">IBM Skills Build</a></li> <li>• <a href="#">University of Arizona</a></li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Who is the Father of AI and Ma</a> <a href="#">chine Learning article</a></li> <li>• <a href="#">Time 100/AI article</a></li> <li>• <a href="#">The Age of AI documentary</a></li> <li>• <a href="#">TED Talk by Joy Buolamwini</a></li> <li>• Study: "<a href="#">The ethics of artificial in</a> <a href="#">telligence: Issues and initiative</a> <a href="#">s</a>" by the Panel for the Future of Science and Technology, European Parliamentary Research Service</li> </ul>	<ul style="list-style-type: none"> <li>• Google Teachable Machine</li> <li>• Notebook LM</li> <li>• ChatGPT</li> <li>• Magic School</li> </ul>