NYSED Computer Science and Digital Fluency
Standards Alignment 9-12

The NYSED CSDF Standards were released December 2020. They're focused on equity, powerful ideas, cross-disciplinary and real world impact and workforce connections.

The Vidcode curriculum offers a turn-key solution to fulfilling the CSDF Standards with the possibility of supporting cross-curricular integrations. Vidcode can be implemented across school districts by teachers who do not have a background in computer science and digital fluency. Courses are research-backed and include assessments, extensive lesson plans, and teaching materials built in.

Vidcode courses are **standards-aligned by design** and have been rated #1 for Global Computer Standards Alignment and support by the Education Alliance of Finland. Vidcode meets students where they are, encouraging them to connect computing to their daily life and the way they experience technology.

Students learn through coursework that focus on creativity and social impact. They collaborate to create digital artifacts including videos, apps, games, and interactive exhibits from day one, using programming as a tool to share their research and point of view.

Impacts of Computing

Impacts of Computing explores the development of computing technologies as driven by human needs. Advances in computing technologies are both influences and influencers:

- **Wide-ranging:** personal, social, cultural, accessibility, legal, economic, and ethical
- **Zones:** local, national, and global
- **Behaviors:** cultural and social interactions and practices
- **Perspectives:** view of impact on society through many lenses

Course	Standards Addressed
Cross-Disciplinary Coding 101-301	● 9-12.IC.7
Digital Citizenship	● 9-12.IC.4
Physical Computing with Makey Makey	● 9-12.IC.6

Computational Thinking

Computational Thinking is a transferable part of Computer Science. It is composed of five fundamental skills that can be applied to any type of problem:

- **Decomposition**: breaking a problem into smaller problems
- **Generalization**: comparing this problem to other problems
- **Abstraction**: deciding which details don't matter
- **Pattern Recognition**: deciding which parts repeat
- **Algorithm Design**: solving all the problems of one type

Course	Standards Addressed
Computer Science 101	- 9-12.CT.4
Computer Science 201	- 9-12.CT.5 - 9-12.CT.8 - 9-12.CT.9
Computer Science 301	- 9-12.CT.5 - 9-12.CT.6
Computer Science 401	- 9-12.CT.4
Computer Science 501	- 9-12.CT.1 - 9-12.CT.3 - 9-12.CT.7
Computer Science 601	- 9-12.CT.1 - 9-12.CT.3 - 9-12.CT.7
Game Development	- 9-12.CT.10
Physical Computing with Makey Makey	- 9-12.CT.2

NYSED Computer Science and Digital Fluency
Standards Alignment 9-12

Networks & Systems Design

Networks and Systems Design focuses on basic functioning of computing systems and networks - fundamental tools in our personal and professional lives.
- **Connectivity**
- **Input and output devices** as part of a complex computing system
- **Fast, secure communication**
- **Facilitating innovation**

Course	Standards Addressed
Physical Computing with Makey Makey	● 9-12.NSD.2 ● 9-12.NSD.3

Cybersecurity

Cybersecurity focuses on the why, who, and how of data and computing resource protection.
- **Actions:** Physical, Digital, Behavioral
- **Risks:** Understanding and identifying
- **Safeguards:** Assessing need & implementation
- **Response** to potential attacks

Course	Standards Addressed
Computer Science 401	● 9-12.CY.4
Digital Citizenship	● 9-12.CY.1

NYSED Computer Science and Digital Fluency
Standards Alignment 9-12

Digital Literacy

Digital Literacy skills, both cognitive and technical are applied to:
- **Appropriately access** digital information
- **Create, share, & modify** artifacts
- **Interact and collaborate**

Course	Standards Addressed
Computer Science 101	● 9-12.DL.1
Digital Citizenship	● 9-12.DL.2 ● 9-12.DL.4 ● 9-12.DL.5 ● 9-12.DL.6 ● 9-12.DL.7