

Duluth Public Schools

Computer Science Education

cynthia.miller@isd709.org





Who We Are

**Cindy Miller, Media Specialist and Building Tech Coordinator, K12
Computer Science Lead, Content Specialist**

**Peter Graves, Technology Manager, Former Educational
Technology and Innovation Coordinator, Former Classroom
Teacher**

**Danette Seboe, Principal on Special Assignment - College, Career,
and Life Readiness, CTE Coordinator**

How it Started

2022-23 School Year

National Center for Computing Education - CS For All

- Teacher Committee - Media Specialist, Math teachers
- PD for Art, Media, Science, and Math teachers
- Jen Rosato, Paul Schonfeld and team

Elementary Media/Tech Classes introduce Scratch coding and Code and Go Mouse

6th Grade Computers Class - unchanged since 1996 (!), applications

AP CSP Elective for grades 9-12

Spotty CS “Pet Projects” throughout the district

MN Dead Last in High School CS Offerings - five schools



Elementary
Code and Go
Mouse and
Scratch
learning



Middle School RVR+ projects



How it Started

2023-24 School Year

- Northern Lights Consortium for Computing Education - National Science Foundation Grant
 - Hired CS Lead, Cindy Miller (.2 FTE)
 - Formed CS Champions Team (teachers, counselor, Native American and SpEd. staff, and some admin)
 - Conducted SCRIPT Rubric (Leadership, Teacher Capacity, Curriculum and Materials, Partnerships, Community, Technology Infrastructure)
- District hired Education Technology and Innovation Coordinator and Digital Innovation Spec.
- CTE Pathway explored - Business or Communications Pathway
- K12 Media Specialists trained with CodeSavvy and NLCCE - Hour of Code, CS Fundamentals and Unplugged CS; CS pilot in elementary
- HS and MS Courses added over the Summer - Revamped 6th grade class, Robotics and Coding, CS 8, CS 10

How it's Going

2024-25 School Year

Educational Technology and Innovation Coordinator position dissolved

Goals in NLCCE Project - LOTS of work with NLCCE

- Rewrite the 6th Grade "Computers" Course
- Scope and Sequence alignment
- Identify Funding for sustainable CS
- Use District PD Days

Unwritten goals

- New Courses - Codes, curriculum, and course descriptions don't match or align with CTE frameworks - BIG JOB!
- CSTA and Information Technology Educators of MN standards alignment
- Equipment and Supply purchases
- Build awareness - teachers, administration, community, STEMpathy Event



Middle School teachers PD with Paul Schonfeld and Tom Cozzolino from NLCCE - physical computing and more

Quarterly PLN meetings with NLCCE; work with other districts in Northern MN.



How it's Going

2024-25 School Year

Required Courses

- K-5 Integrated Media/Tech - 8-10 Unplugged and Code.org's CS Fundamentals
- 6th Grade Computer Literacy - Tech Applications and Code.org's CS Discoveries units
- 10th Grade Computer Science - by name only

Elective Courses

- 6th and 7th Grade Coding and Robotics (Industrial Tech teachers) - underwater robotics
- 8th Grade Computer Science - Data Science and Scratch
- 9-12 AP CSP - one class, low enrollment

What's Next

2025-26 School Year

K-8 - CS Integrated with Music and Science

9th-12th - Computer Repair Academy - Vivacity program, Intern with Tech Dept.

11th-12th - Computer Gaming and App Design, Code.org

Outside of school programming - Summer, afterschool, Community Ed., organizations

2026-27 School Year

K-8 - CS Integrated with Music and Science

11th-12th - Multi-Media and Video (not exactly Computer Science)

11th-12th - Cybersecurity (collab with local community college, local ASAF Base)

Coming Up Soon - CS Teachers

Midwest Indigenous CS PD event

- March 13, 2025
- 9am - 3pm at NE Service Coop in Mountain Iron
- Who: Educators in the K12 CS Pathways Grant Project
- Stipend: Participants will receive a \$400 stipend for teaching and reflecting on one CS lesson after the workshop
- [Poster to share](#)
- Register here: <https://bit.ly/IndigenousEd4CS>

Coming Up Soon - 4th Grade Teachers

Intro to CS/CT PD

- **Online course, mix of synchronous and asynchronous learning**
- **April - May coursework open**
- **Synchronous meetings April 10, 17, 24 (4pm-5pm online via Zoom)**
- **Lesson implementation with reflection**
- **Reflection, wrap up May 22nd (4pm-5pm online via Zoom)**
- **[Save the date flyer](#)**
- **Registration coming soon**
- **\$875 Stipend for completion of coursework, meetings, and lesson implementation**

Coming Up Soon

K12 CS Teachers (including Media Specialists)

MN + CS Conference

- Dates: April 11-12, 2025
- Location: Minneapolis, Minnesota
- \$15 registration - Register here:
<https://form.raspberrypi.org/4873931>
- Travel scholarships are available





Questions?
Email Cindy Miller
cynthia.miller@isd709.org