Carle Place Schools
STEAM Advisory Committee Presentation

Spring 2025

Mission & Vision

The members of the Carle Place School District work diligently to nurture compassion and passion, while honoring tradition and inspiring excellence, working collaboratively to shape the future of our students together.

We seek to accomplish this work through active learning and agency; within, between, and beyond the classroom - where students, teachers, and administrators work together to create a continuous cycle of success.

"The best way to predict the future is to invent it."

~Alan Kay

Charges To The Committee

- Define the characteristics of a high-quality K-12 STEAM learning environment and curriculum.
- Confer with STEAM professionals from the Carle Place community and beyond to gain insight on the skills and credentials needed to succeed in STEAM professions, including mentoring and internship opportunities.
- Make recommendations on the materials and methods, assessments, and learning and performance opportunities (including a high school STEAM learning sequence) for students in grades K-12.
- Understand the budgetary implications of program changes and resource adoption.

Connection, Community, Collaboration

- Committee meetings with staff
- Analyzed other LI high schools' STEAM course offerings
- Community meeting with STEAM professionals
- Community survey to collect data about local business partnership/mentorship opportunities
- Student interest survey about future STEAM course offerings in High School

Committee Members

Jen Bambino
Josef Christ
Theresa Collalto
Lori Feit
Danielle Foraker
Kerri Hauff
Samantha Kantor
Michael Limone
Jessica LoCastro
Alyssa Marshak
Eileen Mazaroski
Julie Norman
Jamianne Pullan
Beth Schaefer-Fokas
Chrissy Shelley
Emika Smith
Julie Tusa
Community Meeting
Community Survey
Student Survey

Tonight's Presenters

Jen Bambino
Martin Christ
Michael Limone
Alyssa Marshak
Julie Tusa

Roles & Responsibilities

Educator Members:

- Provide first-hand educator's perspective
- Attend all meetings.
- Read, analyze, and discuss committee materials.
- Lead or participate in subcommittees or special details.
- Make formal recommendations.
- Help prepare, revise, and present final finding.

Guest Members:

- Provide the parent perspective and/or the perspective of a specialized professional.
- Contribute to formal recommendations.

How did we shape our learning?

- Meetings took place in whole group and small group formats
- Engagement in visual thinking protocols
- Independent reading, research and reflection work
- Analyze other Long Island high schools' STEAM-related course offerings
- Interviews with STEAM professionals in our community
- Collected data from local businesses about potential partnerships/mentorships for our students
- Student survey about future STEAM course offerings
- Drafting and refining recommendations

Committee Research

- Hasso Plattner Institute of Design at Stanford. An Introduction to Design Thinking: Process Guide. n.d. https://web.stanford.edu/~mshanks/MichaelShanks/files/509554.pdf.
- Henriksen, Danah, Rohit Mehta, and Swati Mehta. "Design Thinking Gives STEAM to Teaching: A Framework That Breaks Disciplinary Boundaries." STEAM Education: Theory and Practice, edited by Myint Swe Khine and Shaljan Areepattamannil, Springer, 2019, pp. 54–65.
- Hertz, Mary Beth. "Full STEAM Ahead: Why Arts Are Essential in a STEM Education." Edutopia, 1 Feb. 2016, https://www.edutopia.org/blog/arts-are-essential-in-stem-mary-beth-hertz.
- Community Meeting with STEAM professionals
- Community Partnership/Mentorship Survey
- STEAM Course Offering Interest Student Survey

Key Learning & Discoveries

Carle Place Schools defined the characteristics of a high quality STEAM curriculum:

A high-quality STEAM curriculum and learning environment integrates science, technology, engineering, arts, and mathematics through hands-on, inquiry-based learning rooted in design thinking. It fosters critical thinking, creativity, collaboration, and problem-solving skills while promoting real-world application and interdisciplinary connections. A STEAM learning environment supports all learners by incorporating innovative tools and practices, and opportunities for exploration, ensuring students are equipped for future career and life endeavors.

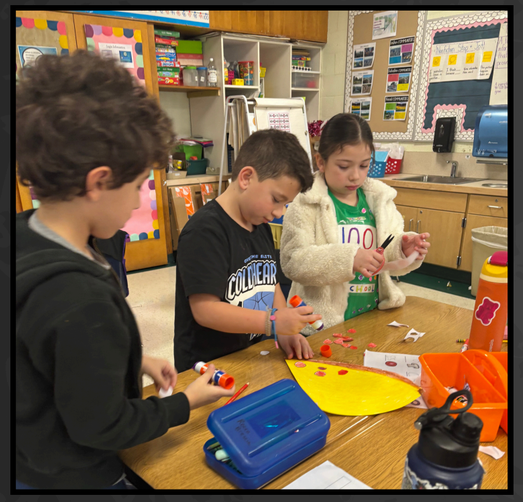
Key Learning & Discoveries

We've identified that STEAM learning experiences are already embedded across all of our schools:

- Infused in project-based learning (PBL) units at Cherry Lane
- STEM units in Cherry Lane and Rushmore Library Classes
- STEM classes at Rushmore
  - The Rushmore STEM program has successfully evolved into a STEAM program with a strong emphasis on the design and invention process.
- Middle School courses (Basic Engineering, Innovators & Makers, Integrated Tech, Computer Literacy, Art, Science Exploration & STEM Enrichment)
- High School courses (Principles of Engineering 1 & 2, Small Engines, Woodworking, Architecture Drawing, Studio Art, Tech Drawing, AP Computer Science, Advanced Ceramics, Anatomy & Physiology, Science Research, Digital Photography, Photoshop, STEM Enrichment, Computer Game Design & Programming)

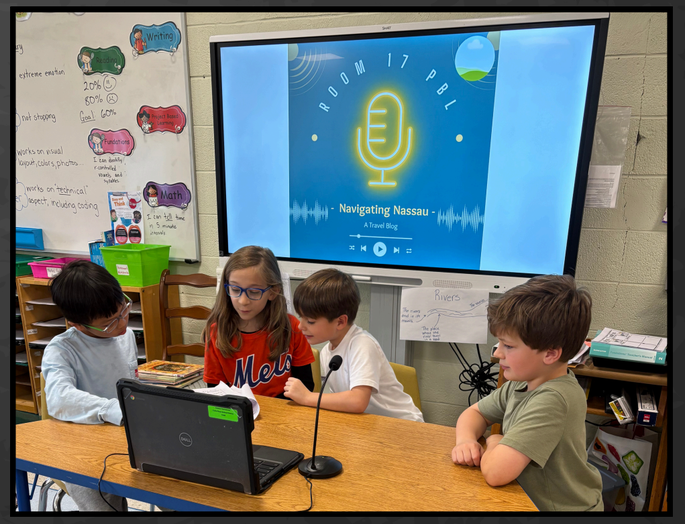
Key Learning & Discoveries

STEAM is happening in Carle Place



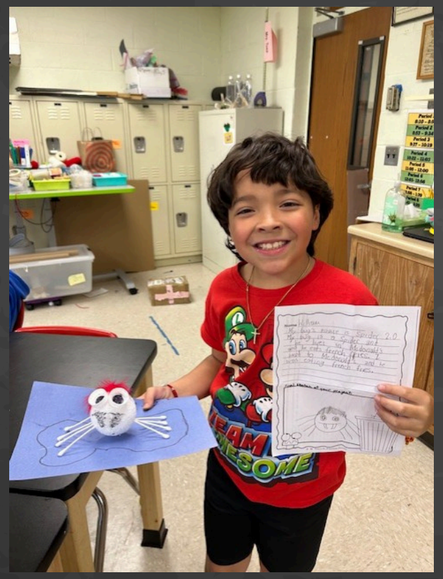
2nd Grade

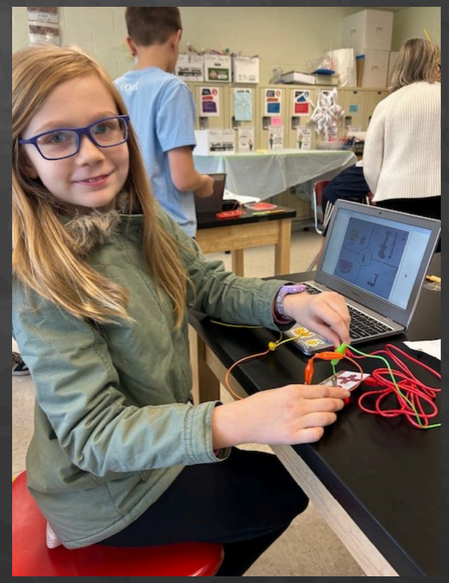
PBL Unit 4: Travel Agency

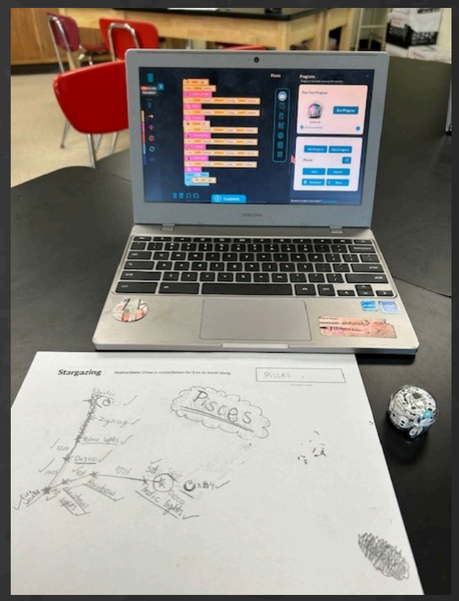


Key Learning & Discoveries

STEAM is happening in Carle Place







Key Learning & Discoveries

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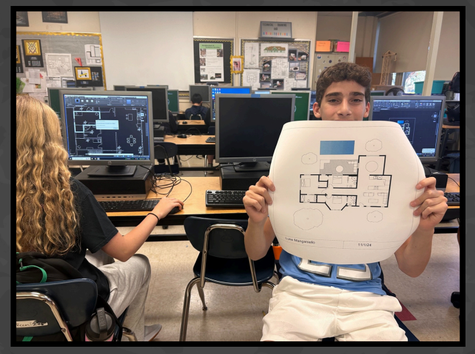


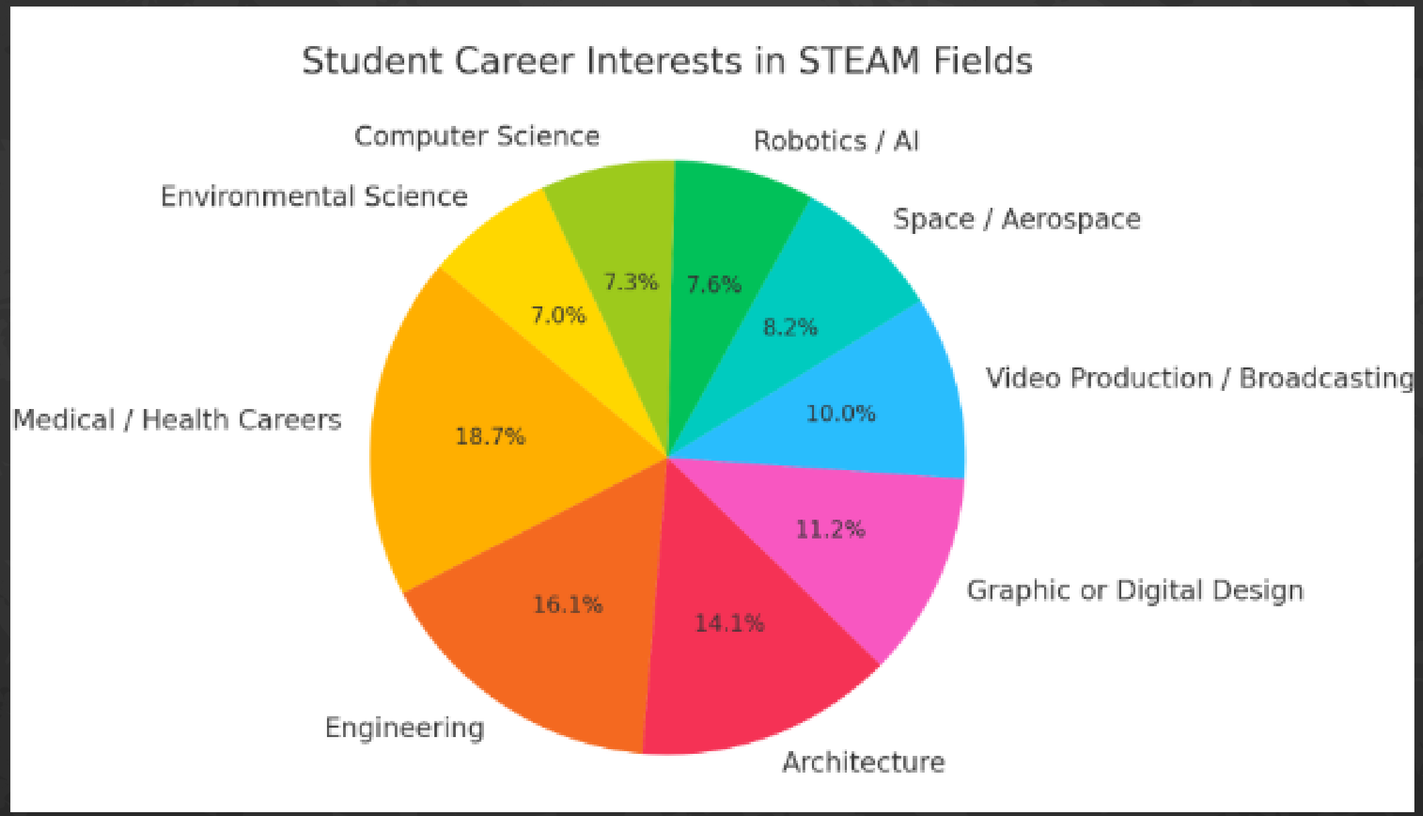
Key Learning & Discoveries

We recognized the importance of expanding career exploration opportunities. All students should have access to a diverse range of local business partnerships and mentorships, not just STEAM-related ones.

- We sent out a Community Partnership/Mentorship Survey to gather input from all types of businesses.
    - Responses from a wide range of businesses: Accounting/Finance, Law, Arboriculture, Arts/Music, Restaurants etc.
    - Results will be shared with our Work-Based Learning Coordinator to expand real-world learning opportunities for students and strengthen career connections.
    - Link to survey

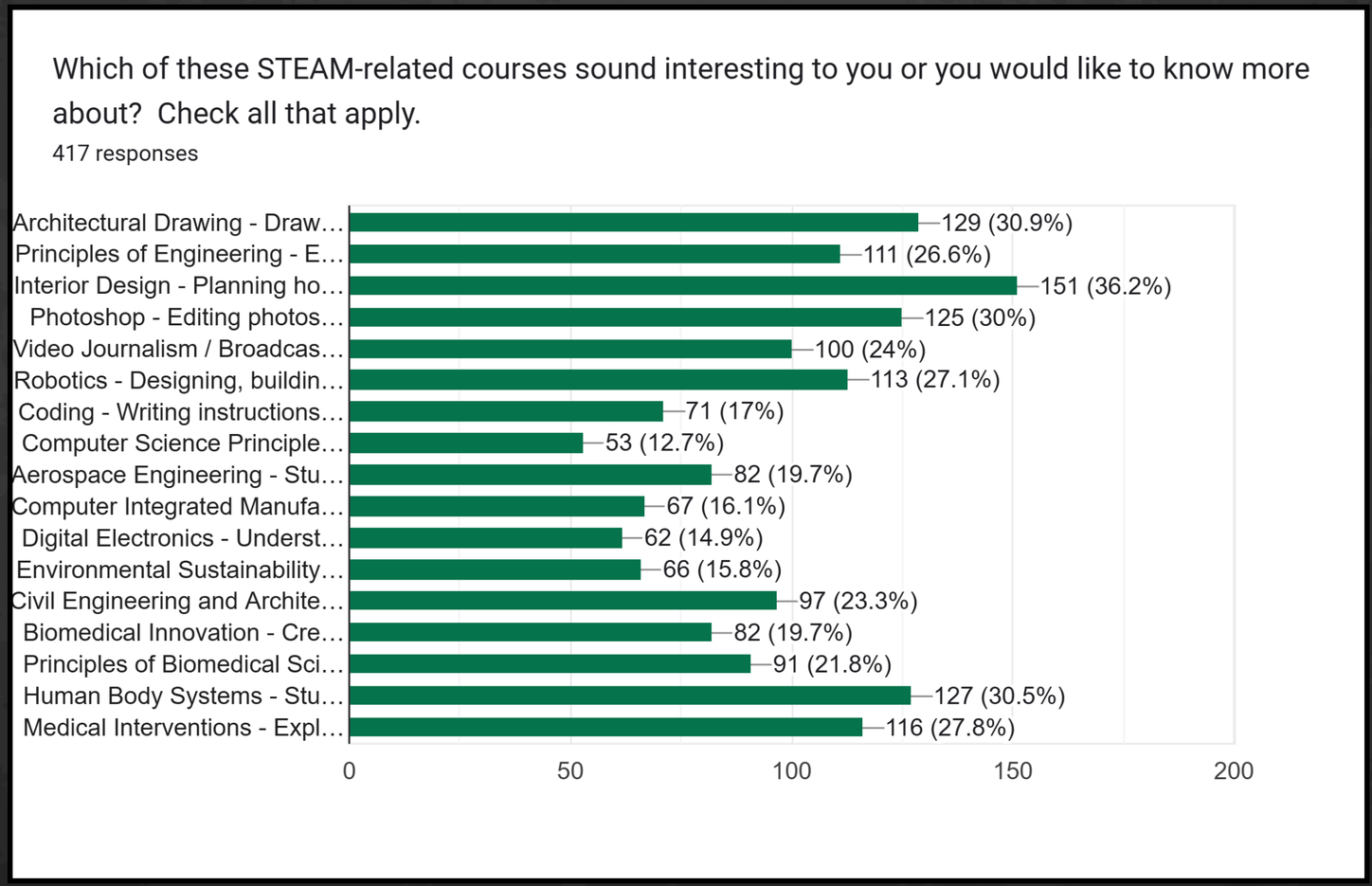
Key Learning & Discoveries

Student Interest Survey about STEAM Careers



Key Learning & Discoveries

Student Interest Survey about STEAM Courses



Key Learning & Discoveries

- **<u>Student Interest Survey:</u>** Interest in STEAM subjects is broad and balanced.
  - Students are not just interested in traditional STEM fields, but also highly value the *Arts* component
  - Key findings regarding interest in career fields such as:
    - Medical / Health Careers, Engineering & Architecture
    - A notable number of students also expressed interest in design-related fields such as graphic design and video production

Recommendations:

- **<u>Assess current STEAM learning experiences and vertically align K-12:</u>** Develop a cohesive STEAM curriculum to support a meaningful progression K-12.
  - Allocate professional development time to:
    - Assess what is currently being done in the district;
    - Identify gaps and overlaps,
    - Align current practices across all grade levels.
  - Conduct an audit of the Rushmore STEM program to align and fine-tune instructional elements by grade-level standards, with the goal of establishing a foundational course that supports science research pathways in the middle school and high school.

Recommendations:

- **<u>Begin using the district's new curriculum template to design a vertically aligned STEAM curriculum K-12.</u>**
  - Implement key checkpoints at Cherry Lane, Rushmore, and the Middle School to ensure these gateway experiences build toward a High School STEAM pathway.

Recommendations:

- **Work-Based Learning:** The STEM-B Director and the High School Work-Based Learning Coordinator should collaborate to expand real-world learning opportunities for students and strengthen career connections.

- **Future Planning:** Continue research into a comprehensive STEAM course sequence for grades 9–12 that leads to a micro-credential, offering students formal recognition of their skills and enhancing their readiness for college and career pathways.

Thank You