The Newburgh Armory Unity Center Computer Science program is dedicated to expanding access to computer science and increasing participation by community students. Through strategically designed, scaffolded coursework, students will build their technical expertise while becoming autonomous problem solvers and leaders within the community.

NAUC COMPUTER SCIENCE

Funded by

The Kaplan Family Foundations

5 Dogwood Hills Road

Newburgh, NY 12550

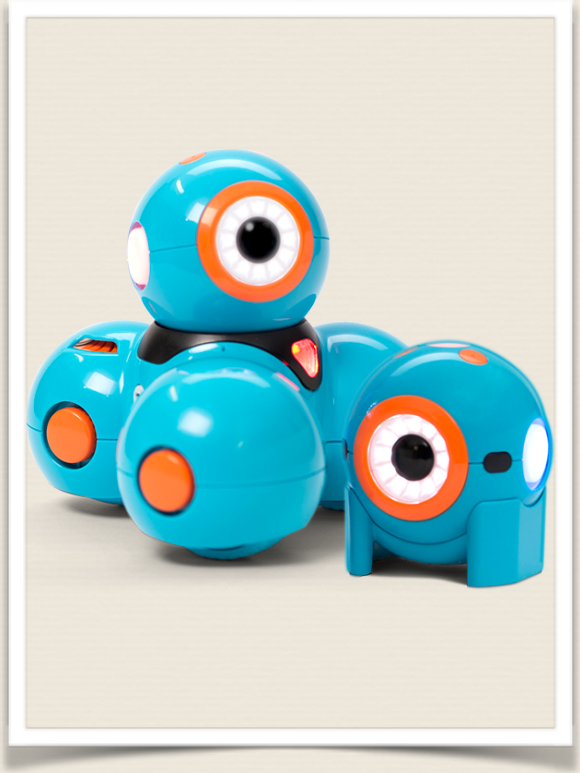
NEWBURGH ARMORY UNITY CENTER, INC. (NAUC)

The Newburgh Armory Unity Center is a place where the community members of all ages may come together for athletic, educational and civic opportunities, in order to engage with others and advance our community.

The Center aims to be an effective sign and instrument that will embody and promote civic unity among people of diverse racial, ethnic, religious, and economic backgrounds and conditions. effective sign and instrument that will embody and promote civic unity among people of diverse racial, ethnic, religious, and economic backgrounds and conditions.

NEWBURGH ARMORY UNITY CENTER

DASH AND DOT ROBOTICS



BEGINNER LEVEL ROBOTICS FOR GRADES 2-4

INTERNATIONAL SOCIETY FOR TECHNOLOGY IN EDUCATION STANDARDS

1. **Empowered Learner:** Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences.
2. **Digital Citizen:** Students recognize the rights, responsibilities and opportunities of living, learning and working in an interconnected digital world, and they act and model in ways that are safe, legal and ethical.
3. **Knowledge Constructor:** Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.
4. **Innovative Designer:** Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.
5. **Computational Thinker:** Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.
6. **Creative Communicator:** Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.
7. **Global Collaborator:** Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.

DASH AND DOT ROBOTICS

The goal of this course is to allow coders to use their knowledge of computer science to interact with the world around them. Dash and Dot robots are programmed through a block programing language that coders can utilize based on their prior knowledge of Scratch. The basics of hardware and hardware/software interaction will be introduced.

SESSION	CLASS GOAL(S)
Week #1	Introduction to Robotics and the Dash and Dot.
Week #2	Step by Step - Sequences and Algorithms
Week #3	Step by Step - Obstacle Course Challenge
Week #4	A Series of Unfortunate Events - Senses and Sensors
Week #5	A Series of Unfortunate Events - Event Handling
Week #6	Dance the Loopedy - Loop - Why Use Loops?
Week #7	Dance the Loopedy - Loop - Understanding Different Types of Loops
Week #8	Introduction to Variables - What is a Variable? Why use Variables?
Week #9	Variables Programming Challenge
Week #10	Master Challenge
Week 11	Master Challenge
Week #12	Presentations of unique solutions to Master Challenge