

CATALOG DESCRIPTION

This catalog includes 4 courses at the middle school level: **Computer Science and Technology Integration, STEM & Society: United Nations Sustainability Goals, Engineering and STEAM.** Through a Project Based Learning approach, students explore technology and computational thinking, the United Nations Sustainable Development Goals and engage in STEAM tasks integrating multiple subjects. Students will investigate real-world problems, and develop and test innovative solutions. This catalog also includes these courses for High School and Elementary School (3-5 & K-2).

COURSE DESCRIPTIONS

Computer Science and Technology Integration

This course is designed to highlight CSTA (Computer Science Teachers Association) Standards for Students. Each of the tasks highlight computational thinking practices, encouraging students to frame problems in ways that inspire inquiry, problem solving and innovative design. The tasks empower learners to take an active role in choosing, achieving, and demonstrating competency using technology applications in the learning process. Students explore computing systems, networks and the internet, data and analysis, algorithms and computing and the impact technology has on the daily lives of people.

STEM & Society: UN Sustainability Goals

This course encourages students to apply what they are learning in the classroom (particularly in science and social studies courses) to explore concepts and content associated with the United Nations Sustainable Development Goals through a Project Based Learning approach. Students will also have the opportunity to work through performance tasks associated with STEM products that integrate language arts and math.

Engineering

In this course, students will define problems and gather information about situations that people may want to change. They will need to investigate the problem and create a solution that solves the problem brought forward. These tasks can include the development of drawing, models, and other solutions that may also include the testing of the solution to gather more information. Engineers figure out how things work and develop solutions that make things better for people and the world.

STEAM

In this course, students will explore real world problems using the lens of science, technology, engineering, the arts, and mathematics. Every task provides an engaging example of how each part of STEAM is important for solving local and global challenges. Teachers can choose to implement just one product based on their course, work with teachers from other courses, or blend STEAM into their course using multiple products.

CAREER EXAMPLES

Below are examples of some of the careers featured within each course.

- App Developer
- Animator
- Microlender
- Industrial Designer
- Aircraft Designer
- Architect

RESOURCES

Course List

This resource provides a deeper look at the specific projects within each course.

Password: definedcatalogs

- [Computer Science & STEM](#)

Playbooks

The course playbooks provide additional background on the course and how to utilize it in your classroom.

- [MS Computer Science and Technology Integration](#)
- [MS STEM & Society: UN Sustainability Goals](#)
- [MS Engineering](#)
- [MS STEAM](#)

UNIT OUTLINES <i>The projects in each course are aligned to content specific units. The table below shows the unit outlines for the 4 Middle School courses included in Computer Science & STEM.</i>			
Computer Science and Technology Integration	STEM & Society: United Nations Sustainability Goals	Engineering	STEAM
Computing Systems	Quality of Life	Design Engineering	Doer
Network & The Internet	Peace and Equity for All	Aerospace Engineering	Creator
Data & Analysis	Physical Earth	Structural Engineering	Thinker
Algorithms & Computing	Human Impact on Earth	Environmental Engineering	Helper
Impacts of Technology		Industrial Engineering	
Digital Literacy		Mechanical Engineering	
Artificial Intelligence AI			
PROJECTS <i>The table below shows how many projects are included in each course. Each project is presented through the lens of a specific career such as the examples shown on the first page.</i>			
Computer Science and Technology Integration	STEM & Society: United Nations Sustainability Goals	Engineering	STEAM
13 Projects	17 Projects	14 Projects	16 Projects
PRODUCTS <i>The table below shows how many products are included in each course. Most tasks have 2-3 products per project, however the STEAM projects have 5 products.</i>			
Computer Science and Technology Integration	STEM & Society: United Nations Sustainability Goals	Engineering	STEAM
39 Products	51 Products	42 Products	80 Products
PRICING Your dedicated partnerships manager will be happy to provide you with a custom quote. Discounts available for product bundles and multi-year agreements.			