



Grades 8-12

# STUDIO LEARNING

NuVu

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NuVu's studio learning model engages students and teachers in a hands-on, tool-rich environment where they work on complex real-world challenges using creativity, critical thinking, and collaboration.

## OVERVIEW

The centerpiece of the NuVu model is the studio. Inspired by the MIT Media Lab, the NuVu studio is an immersive, interdisciplinary learning experience built around four pillars: innovation, empathy, design, and impact. Each studio is structured by hands-on, real-world projects in a 6:1 student-to-coach ratio that ensures support for students as they work on open-ended problems. To create voice and purpose for students, studio topics always include relevant social issues.



NuVu students work on a single multidisciplinary studio for 3 to 4 weeks rather than attending multiple courses each day. Projects help students deepen their critical thinking skills, express their creativity, learn to collaborate, and develop deep technical skills. All learning in the NuVu model is hands-on, so students spend a lot of time in "the shop," a multi-faceted fabrication space where students have access to a variety of materials, resources, and tools, both digital and analog. Students also have access to experts who serve as guest coaches and bring rigor to the learning process by providing feedback, provoking new ways of thinking, and encouraging iteration.

NuVu graduates have proven to be prepared to thrive in engineering, art, and design programs at highly selective colleges. As NuVu continues to empower its students with the technical skills to become designers, entrepreneurs, makers and inventors, it has developed NuVuX, an initiative that brings design, creativity and innovation to K-12 schools and organizations around the world. NuVu serves as the epicenter of the growing global NuVuX Partner Network.

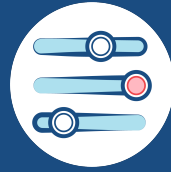
[NuVu Brochure](#) ▶ [The Senior Five](#) ▶ [A Day in NuVu](#)

## What Makes This Model Innovative?



### Relevance

NuVu believes that transformative learning is possible only when students reach outward to impact society. By design, NuVu studios include opportunities for students to work directly with people who have firsthand experience of the topics being explored.



### Customization

NuVu studios are designed to be spaces where students can take risks and explore new ideas and opportunities based on individual needs and interests. Coaches and mentors are able to actively support students on their respective journeys because of the low student-to-coach ratio.



### Active Self-Direction

At NuVu, students are positioned to define their own learning goals during fully immersive studios. In a studio, this means students make decisions about how to progress through a project. In each phase, students use emergent knowledge to figure out what to do next.

## DESIGN

### Goals

NuVu studio learning prepares students to be well versed in the creative thinking and analytical skills valued by colleges, employers, and the world. NuVu defines these skills using five competency areas:

<b>Creative Mindset</b>	Students organize information into unique ideas that have value. Skills include conceptualization, design research, iteration, and critical synthesis.
<b>Critical Communication</b>	Students utilize various mediums to convey ideas and insight. Skills include data comprehension, applied reading, critical writing, and oral presentation.
<b>Personal Growth</b>	Students exercise agency as a part of self-improvement. Skills include engagement, initiative, collaboration, and project management.
<b>Contextual Framing</b>	Students develop perspectives using insight from diverse sources. Skills include social contextualization, cultural and historical awareness, design empathy, and civic participation.

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## Essential Making Techniques

Students transform ideas from the abstract to the concrete. Skills include visual communication, natural sciences application, documentation, rapid prototyping, programming or electronics application, advanced media, mechanical operations, and fabrication and construction.

## Experience

Studios are the heart of NuVu's pedagogy. Based on the architectural studio model, studios are 3–4 week hands-on, multi-disciplinary, collaborative learning experiences that conclude with projects and exhibitions. During studios, students learn to navigate open-ended problems, collaborate effectively, build empathy for others, and communicate their ideas effectively using a variety of media. [📖 Studio Curriculum ▶ Formbionics](#)

Overall, six skills areas and six thematic areas drive the NuVu curriculum.

Skills areas: Design Fundamentals; Research and Conceptualization; Electronics and Computation Fundamentals; Engineering and Robotics; Fabrication and Visualization; Computation and Logic.

Thematic areas: Sustainable Infrastructure and Systems; Civic and Community Engagement; Health and Well-being; History, Identity and Culture; Technology and Future Worlds; Human Interaction.

NuVu's curriculum also includes three other key elements: seminars and workshops; supplemental coursework; and internships and capstone projects. [📖 NuVu Curriculum Overview](#)

## Seminars & Workshops

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Seminars meet once per week and last for an entire trimester. They cover topics where students have expressed particular interest. Through reading, writing, and discussion, seminars allow students to explore topics related to their work in studios.

Each week, NuVu faculty also offer a variety of standalone hour-long workshops. Some workshops focus on technical skills like perspective drawing or circuit design, while others cover topics like logical fallacies or financial literacy.



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## Internships & Capstone Projects

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As part of their NuVu experience, students will spend a trimester or summer at a partnering company or organization through an internship program. These experiences connect what students do within studios to a larger, real-world context.

During their 12th grade year, students complete capstone projects on a topic of their own choosing. [Capstone Projects 2020](#) ▶ [NuVu Capstone Exhibition](#)

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## Supplemental Coursework

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To ensure that all students have a well-rounded foundation in traditional disciplines, NuVu integrates supplemental coursework into the overall academic program. One flexible block per day allows students to determine how much time they need to devote to this work each week. Students then supplement their learning by taking accredited academic courses through specialized online providers and with support from NuVu's coaches.

NuVu's academic advisors work with each student to craft a personalized multi-year plan based on that student's particular academic goals. Advisors also work with students to ensure that they are strong candidates for college admission who are prepared for postsecondary success.

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## Supporting Structures

The NuVu studio learning model can be adapted into existing school structures with substantive changes to core capacities in instruction, facilities, and scheduling.

**NuVu curriculum is structured around studios where open-ended questions and hands-on learning are the norm.**



**CURRICULUM,  
INSTRUCTION, &  
ASSESSMENT**

NuVu studios fuse academics and imagination with student-centered practices, which means instructors, called coaches, must have a specialist set of skills. In a studio, instruction is focused on the facilitation of learning within the context of a project rather than a specific content area.

NuVu's core emphasis on individual student growth is reflected in the school's assessment practices. As a result, in place of traditional letter grades, students receive daily feedback about their progress toward mastery in five competency areas, and they regularly reflect on their own learning as a part of assessment. Student work is documented in portfolios that are showcased in public exhibitions.

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### SCHOOLS COMMUNITY & CULTURE

#### The NuVu model relies on a high level of student trust and benefits from students opting into the learning environment.

The NuVu learning experience was designed for students who want school to challenge them to think big rather than hit the ceiling of grades and tests. NuVu is for students who like to ask questions, tinker, design, engineer, and make with the goal of having social impact through their work.

At NuVu, a culture of trust and respect is born out of coaches and experts who support students as they learn the foundational skills they need to engage in self-directed learning. The relationships that emerge from this support empower students to take risks and tackle sophisticated projects.



### ADULT ROLES, HIRING, & LEARNING

#### NuVu coaches are uniquely equipped to help students develop the skills and competencies needed to thrive in school and beyond.

NuVu pedagogy is aligned to the vision that middle- and high-school students can begin to develop skills and competencies they will need in the future. These skills and competencies take years of practice and experience to develop and require the support of adults in a variety of roles.

For students to learn how to innovate and solve real-world problems, these adults need to be able to design and facilitate open-ended learning experiences. They also need to be able to teach some of the technical skills that will help students bring their ideas to life.



### SCHEDULE & USE OF TIME

#### NuVu studios are structured to give students the time to dive deeply into projects.

The NuVu schedule was designed to foster deeper learning by affording students the time and schedule flexibility needed to work through iterative learning processes. For NuVu, this typically looks like studio work from 9am–3pm taking place in 3–4 week increments. However, any school can adapt NuVu’s studio-based practices for their unique schedules, as long as students can deeply explore a topic.

	Monday	Tuesday	Wednesday	Thursday	Friday
Morning	Studio				
	Advisory, Seminars & Workshops, Supplemental Courses				
Lunch	—				
Afternoon	Studio				



## FAMILY & COMMUNITY PARTNERSHIPS

**To support elements of its program, NuVu forms unique partnerships with schools, colleges, and businesses in the local community.**

NuVu offers students from other schools the chance to enroll full-time at NuVu for a trimester or semester. To support studios, NuVu often engages experts from local colleges and innovative companies. NuVu also partners with businesses and organizations to give students a real-world learning experience in its Internship Program.



## SPACE & FACILITIES

**NuVu's belief that all learning should be hands-on means that schools need spaces and facilities to accommodate various types of activity.**

At NuVu Cambridge, students have direct access to "the shop," a multi-faceted fabrication shop, where they can bring their ideas to life using the latest digital and machine tools as well as various materials and analog tools. By the time they graduate, NuVu students have developed a wide array of technical skills that can be applied directly to industry and workplace experiences.

Today, fabrication labs and makerspaces exist in many different forms because of the increasing availability of tools like 3D printers and design software. NuVu itself created ToolBox, a comprehensive system of objects designed to help inexperienced creators realize ideas with available tools.



## TECHNOLOGY & INFRASTRUCTURE

**To track student projects and make communication and collaboration easier, NuVu created NuFolio, an online, visual learning platform.**

Facilitating and supporting learning processes across multiple student projects can quickly become complicated and frustrating without the tools to manage all of the moving parts. Designed to support the studio process, NuFolio is a digital platform that makes student learning visible by organizing their ideas, prototypes, reflections, and presentations through a shared workspace. NuFolio allows students, coaches, and mentors to interact and collaborate inside and outside the studio.



## CONTINUOUS IMPROVEMENT

**To design transformative learning experiences that prepare students for the future, NuVu actively engages in research and development.**

NuVu has an in-house R&D Team that develops studio topics and tools to enhance studio-based learning and practices. Using NuVu itself as a platform for research and exploration in new studio topics, the R&D Team spreads best practices and studio learnings to its larger network of schools.

# IMPLEMENTATION

## Supports Offered

To support schools that want to adopt their studio model, NuVu has developed [NuVuX](#), a set of education and consulting services built with the goal of supporting educators who want to adopt studio-based learning. NuVuX consists of four models, ranging from ready-to-use studios, to innovation camps, to comprehensive innovation programs with robust support. [NuVuX Program Components](#)

### X1 – Studio Curriculum

*Cost Associated*



The X1 model is designed for schools seeking to run studio-based programming with minimal support from NuVu. X1 provides access to select NuVu studios, hosted on NuFolio. Studios contain the studio prompt, assignments, all accompanying resources and tutorials, an equipment and supplies list, and necessary support materials. Instructors receive four hours of professional development training prior to the start of the studio and a minimum of 16 hours of remote support during the studio course.

[Learn More](#)

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### X2 – Virtual Studios

*Cost Associated*



In this offering, studio courses are led synchronously by NuVu coaches in a virtual environment. Facilitated entirely online, these courses are a good choice for schools interested in piloting NuVu curriculum or schools limited by teacher support who want to capitalize on NuVu’s studio expertise more directly. These studios require a material kit for each student, which is provided by the school, or which under special circumstances can be provided by NuVu.

[Express Interest](#)

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### X3 – Program Support

*Cost Associated*



The Curricular Support and Consultation Model provides schools and organizations with a combination of studio curriculum, remote support, and professional training to help develop a robust, onsite, studio-based program for students. This model is appropriate for institutions with an existing STEAM or innovation program infrastructure who are seeking new teaching methods and content, along with dedicated, ongoing support from the NuVu Team.

[Express Interest](#)

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## X4 – NuVuX Fellows

Cost Associated



The NuVuX Fellow model is the most comprehensive mode of partnership and is appropriate for institutions seeking to create or enhance studio-based programming within their organization long term. In these models, a full-time NuVuX Fellow is dedicated to the project (either on-site or remotely), and a NuVuX Program Designer (project manager) oversees the implementation of the program. The complete suite of NuVuX program components are implemented for lasting, meaningful impact.

[Express Interest](#)

## Reach

NuVu's studio learning model has inspired innovation in programs and schools around the world.

30

Schools

5

Continents

100%

College  
Admission

5,000

Students

## Impact

NuVu's studio pedagogy helps students cultivate skills essential to postsecondary success.

- 97% graduation rate
- 100% college acceptance rate

Student experience surveys reflect important aspects of NuVu's impact.

*“ To me, NuVu provides a sense of belonging. Rather than being forced to conform to a system, students are able to learn more about their strengths and weaknesses as a creative being and improve on certain aspects. This learning experience is very beneficial and has provided me with incentive to improve specific skill sets, and to learn about how I work/what environments I prefer or necessitate.*



“ *It teaches you to get comfortable with being uncomfortable and use that to grow and improve. Doing something new in each studio keeps you on your toes and engage in a different way compared to a traditional classroom setting. It has made me more independent and self-motivated to see my projects through, and not just at NuVu but also throughout my daily life.*

NuVu’s model also has received strong endorsement from parents.

“ *Thank you for your extraordinary skills in designing a program that has a real impact on your students and enables them to become the best they can be! ...You have opened her mind to infinite possibilities, and the biggest impact I see is her developed decision-making ability and everyday problem-solving skills. Whatever she will do in the future, this is something she will benefit from for the rest of her life.*

“ *I always feel lucky that we found NuVu, but especially this year. So many high school students we know have had disappointing semesters, whereas the academic programming at NuVu has been both rigorous and engaging. She’s learned a tremendous amount this school year – and she’s felt challenged by and enjoyed the process.*

## Contact

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## RESOURCES



[NuVu Brochure](#) An overview document about NuVu.



Five high school students from NuVu’s Graduating Class of 2019 share their stories of struggle and ...  
[The Senior Five](#) A video about NuVu’s studio model through the eyes of five seniors.



[A Day in NuVu](#) A video made by students about a day at NuVu.

NuVu 2022-2023 Curriculum

We are excited to be announcing the upcoming studios for the 2022-2023 school year! This year we have adapted core themes and skills that these studios will focus on throughout the session. This will allow for the students to have a better understanding of applying the learned skills to real world applications.

Core Themes and Skills

When designing each studio, a theme is paired with a particular set of skills. Over the course of the year, each student will have opportunities to explore a range of the themes and skills listed above. Some studios will be focused on introducing new skills and ideas, while others will be more focused on application of past knowledge. Many studios will involve partnerships with local people and organizations, allowing students to learn from experts and create solutions that address the needs of specific clients. In each studio, a theme from the list above is paired with a particular set of skills.

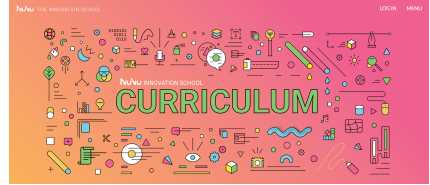
Core Themes	Core Skills
Sustainable Infrastructure & Systems	Design Fundamentals
Health & Wellbeing	Electronics & Computation Fundamentals
Human Interaction	Research & Conceptualization
Civic & Community Engagement	Engineering & Robotics
Technology & Future Worlds	Computation & Logic
History, Identity & Culture	Fabrication & Visualization

[Studio Curriculum](#) An overview of NuVu's studio curriculum.

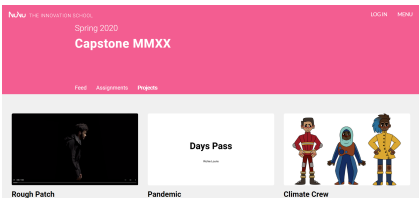


Through Access Sport America, NuVu students worked with Ross Iliev's athletes to design and f...

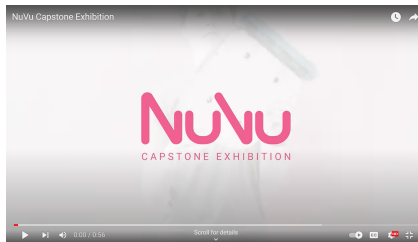
[Formbionics](#) A video about students building wearable mechanical devices for Access Sport America athletes.



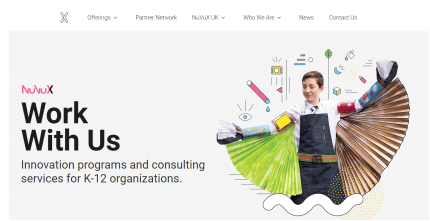
[NuVu Curriculum Overview](#) A website with information about NuVu's curriculum.



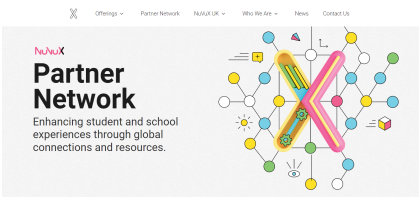
[Capstone Projects 2020](#) A website collection of student capstone projects from 2020.



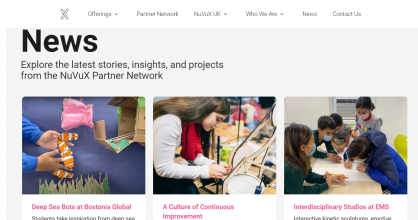
[NuVu Capstone Exhibition](#) A video highlighting student capstone projects.



[NuVuX Program Components](#) A website explaining the various elements of NuVuX.



[Impact Stories](#) A website about schools that have implemented NuVuX's studio model.



[Insights from the NuVuX Partner Network](#) A website sharing insights and projects from the NuVuX Network.