



## UPSM High School Pathway Program in The Virtual Space

Our pathways distinguish our campuses, one from another and are designed to ignite a flame in our scholars for their future career goals. During this virtual learning period, our educators have reached down into their creative toolkits to provide a hands-on experience while scholars learn from home. University Prep Science & Math High School, School Director, Dr. John Lockhart shared, “even with the challenges that the virtual space brings, teachers have completed lab work demonstrations, virtual field trips and some have made home kits available to students to decrease the gap in hands-on instruction.”

Scholars in the LIFT Pathway have been focusing on the e-learning modules. They complete self-paced modules remotely. The quizzes for content mastery, that conclude each module involve students leading their teacher through a performance task where the teacher is on-site with the actual trainer at LIFT. The students must dictate to the teacher which switches to move and buttons to connect and sensors to manipulate for test completion.

Our Intro to Gaming/Amazon students are immersed in a gaming experience, playing 4 types of games (puzzle, arcade, strategic, and casual) while learning a C++ coding to eventually develop 4 game applications. The synchronous learning is teacher lead while learning the coding language is self-paced. Online modules in the Edhesive/Python platform are completed through self-paced remote modules.

Our Forestry and People Class as part of our Urban Forestry Pathway students' ultimate goal is to purchase land from the Detroit land bank and cultivate it by planting various species of trees and produce to grow and sell in the student-run market. Engaging the community and developing economic infrastructure is just one by-product of the course. All hands-on learning has been modified so that students can actually participate in the activities at home through the home kits made available by teachers.

All hands-on learning for our Zoology and Aquarium Studies & Aquatic Biology students has been modified so that students can actually participate in the activities at home through home kits provided by the school. Lab experiences that cannot be modified have been teacher-led on campus via a live Zoom session.

Newly added is our Pathway Senior seminar courses, where seniors have been tasked with developing a product, a research paper, an academic poster, and a presentation for the UPSM HS Science Conference. Seniors will analyze a major local challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants. The end result is students will design a solution to a complex real-world problem, need or want by breaking it down into smaller more manageable problems that can be solved through engineering. They must then evaluate the solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints including cost, safety, reliability, and aesthetics as well as possible social, political, economic, cultural, and environmental impacts. Their final step is to use a computer simulation to model the impact of their proposed solution through interactions within and between systems relevant to the problem. We are excited to hear these solutions to real-world challenges from these innovators of tomorrow!

