



501(c)3 not for profit STEM Lab and Makerspace

Spring 2021 Virtual Field Trips

Unlock your students' creativity with our specially designed virtual field trips for the spring 2021 semester. VF's are available for **Grades 3-12**, with content and exercises differentiated for Grade Levels 3-5, 6-8, 9-12. Bookings are available Tuesdays-Fridays, **February 1- June 1**. Sessions and prices are per student unless noted otherwise.

As an added bonus, students who participate in the workshops will be eligible to submit their in-class project to an end-of-semester **Creative STEM Mini Challenges**. Prizes will be sent to the winning students and their teachers.

Fee Schedule

3 Topics to Choose from

- Coding + Robotics**
Theme: Self Driving Cars
- VR + Animation**
Theme: Future Cities 2121
- 3D Printing + Modeling**
Theme: Mars Habitat

Half Day	9A to 11A <u>OR</u> 12P to 2P	\$25 per student
Full Day	9A to 11A <u>AND</u> 12P-2P LUNCH BREAK 11A to 12P	\$40 per student

OR

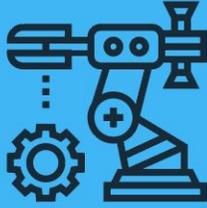
Virtual Maker Tour
\$150 flat rate

Book Online at
FABLAPASO.ORG/VIRTUAL

Email Us at
INFO@FABLAPASO.ORG

Vendor and Contractor of Allied States Cooperative ESC Region 19, El Paso ISD, Socorro ISD, Ysleta ISD, San Elizario ISD, Canutillo ISD





CODING + ROBOTICS

12 Students Limit
HALF DAY, FULL DAY

Stuck at home with no access to costly robotics kits? No problem! Fab Lab has you covered. Learn coding principles from the comfort of your home and take control of our four remote robots located in our makerspace. View and interact with our robots in real time through an online interface. Get hands-on with learning by solving a series of puzzles and challenges through block-based codes. Students will build foundational knowledge in coding and robotics programming while interacting with each of our four unique robots.

Spring 2021 Topic: Self-Driving Cars

In 2014, Google unveiled a self-driving car which has traveled more than 2 million miles to date mapping out streets all over the world. In this semester's topic we will explore the future of transportation through the history, engineering, social implications of this technology. Remote control our rovers through code and navigate streets, avoid obstacles, obey traffic rules.

Spring 2021 Mini Challenge: Design a Driving Game in Scratch

Using block coding, design a vehicle-driving, navigation, or racing game. Feel free to add extra things (timers, collectibles, shortcuts, etc.) to make your game look and feel more realistic or challenging.



VIRTUAL REALITY + ANIMATION

30 Students Limit

HALF DAY, FULL DAY

*Includes VR Cardboard Viewer

A few years ago creating virtual reality environments took massive amounts of computing power that was expensive, required highly skilled computer science engineering. With the power of cloud computing and cellular phone technology we can now quickly and easily make fun virtual reality environments through an online interface. Students will unleash their creativity while they hone coding, 3D design, and storytelling skills vital to the VR experience.

Spring 2021 Topic: Future Cities 2121

It is the year 2121, how has the world changed in one hundred years? Think of 3 different problems facing humanity and the world today, then create a virtual interactive 3D environment that simulates how those problems have been or have not been overcome.

Spring 2021 Mini Challenge: Metropolis 2121

Using CoSpaces, storyboard, narrate, model, and design a city in a hundred years. Be sure to include interactive elements to make the VR experience as immersive as possible.



3D PRINTING + MODELING

40 Students Limit

HALF DAY, FULL DAY

*Includes student 3D prints

The world has been transformed with endless possibilities thanks to the power of additive manufacturing. Projected to be a multi-billion dollar industry in 2021, 3D Printing has applications in product design and manufacturing, aerospace, material sciences, medical fields, the entertainment industry just to name a few. Give your students a head start in these exciting fields, as we cover the fundamentals of 3D CAD (Computer Aided Design), anatomy of common printers FDM and SLA, and discuss the possibilities and limitations of 3D Printing.

Spring 2021 Topic: Mars Habitat

Beyond humanitarian purposes of low-cost shelter on Earth, 3D printed homes have been widely discussed for potential Mars habitats. NASA, for instance, has taken an interest in the technology, since printing structures on Mars would be a lot more convenient than flying all the raw materials there. We challenge students to design a 3D printable Mars structure that astronauts can use as a home or research facility.

Spring 2021 Mini Challenge: The Martian

3D design your very own Mars habitat using 3D modeling concepts to create structures that a space colony can use to survive on a distant planet. Be sure to include a short explanation of the construction material, architectural features, and the purpose of each edifice.



VIRTUAL MAKER TOUR

No Student Limit

9A to 10:30A OR 12:30P-2P

Access our Maker Space without leaving the comfort of your own home! Students can explore our state of the art Fabrication Laboratory, interact with machines, see live feeds of projects in the works, and learn all about the digital fabrication processes. Our lab is part of a global network of facilities dedicated to democratizing access to education, tools and equipment, and creating a more equitable, and sustainable future. This first of its kind, Virtual Maker Space tour will allow your students to see what resources there are in our community to Imagine, Innovate, and Invent!