

PTO Enhancement Grant Request: 2019-2020
ES MakerSpace 3D Laser Cutter

Applicant / Project Leader: Cary Hart (Faculty/Staff)

Description

By providing both cutting and engraving possibilities, the 3D Laser Cutter opens up a new world for students to bring their visions to reality. This device enables students to transform wood, cardboard, paper and acrylics into customized prototypes that can enhance students' design thinking capabilities, while also creating intricate stand alone pieces to showcase their talents. Although primarily used for flat designs, the nature of the machine allows for the modification of larger works than would be possible with the 3D printer. This machine can quickly carve out the needed designs and its pieces can readily be combined with those from the 3D printer to generate original designs to address real world problems.

Target Community

The ES students are the main benefactors though the ES teachers will also benefit. Having a 3D laser cutter in the ES will allow students to begin to build skills that they can carry with them into MS and HS.

As our Curriculum is demanding a space for creating and designing this piece of equipment will be available to all in the ES when necessary to help them reach curricular goals.

Choices

This equipment will be purchased from brands that are certified for use in Russian educational institutions. This will make them certified for schools as well as mean that there will be support and servicing available in Russia for them. They are also both able to work with iPads or Chromebooks as their applications do not require a dedicated computing device to run them, this fits nicely into our program. (We are currently still researching the best option for AAS)

How will your project positively impact the AAS community?

The 3D Laser Cutter transforms existing pieces into works that can either act as prototypes or actual workable solutions. The final products can transform the hallways and display areas onto 3Dimensional showcases for student agency, while also inspiring students to pursue a career in one of the STEM fields.

Projected Total Cost

\$6,000

Where will your grant proposal item be purchased? Locally

Proposed start date

As soon as the equipment arrives and training and safety policies have been set up for the teachers and student use.

Estimated set up or lead time

1 month after arrival

Success Criteria

Students who have successfully be able to use the equipment to develop the prototype they imagined.

Your "Elevator Pitch"

In an effort to stock our design/maker space with the equipment it will need to create the type of space we would like to have to support the curriculum that the ES is delivering, we would like to request money for a 3D laser cutter. This piece of equipment will open up new doors to allow our students to create actual working prototypes of designs that they have created to solve real-world problems and create real-world designs.