

Precision Laser Imaging

Laser Engraving is a common technology used in sign making, product marking, and many other applicators in industry. In education, laser engravers often become the most used technology in a FAB Lab or Innovation Lab. They are popular due to the high speed at which they operate and the high student throughput that can result. Often these systems can be used in conjunction with or instead of other technologies like 3-D Printing or CNC machining.

Over the past 5 years the Applications for Laser Engravers had grown substantially. Initially a technology that was primarily used for awards and Trophies has grown with applications including:

- Fab/Labs and Innovation centers
- Medical Equipment Marking
- Packaging
- Prototyping
- Marking
- Engraving
- Medical production applications
- Graphic Design applications
- Sign Making
- Others

The use of Lasers of all types in industry is experiencing rapid growth. The need for skilled operators, product designers and creators is growing. Laser Engraving systems are being used in Advanced Manufacturing programs, Graphic Design programs, and Engineering programs

This competition will be a team of two (2).

Student roles:

The **Design Team Member** would need to use either Adobe Illustrate or CorelDraw and design the file.

The **Imaging Team Member** who runs the laser would manipulate the files and cut the image.

Design Team Member needed to do the creative design work, and the **Imaging Team Member** to take the file and laser engrave the image and laser cut the shape.

Proposed Design Challenge: The Precision Laser Imaging Competition will be comprised of three components The students will be presented with a finished product.

- Phase one: 1.5 hours - will include creating a replica of an award plaque or sign to be used for a business. The students will be provided material to create a copy of the product. They will be required to create the artwork in Adobe Illustrator or CorelDraw with all the features provided to them. The students will use the balance of an hour and half to manufacture the product.
- Phase two: 1.5 hours - will include the students being provided shipping foam with which they will use the Laser Engravers to cut and fabricate the packaging material to ship the product.
- Phase three: 1.5 hours - will include the students being provided a supply of flat cardboard and they will use this to create a shipping box and markings on it to ship the product.

For the demonstration event, we will have a laser engraver(s) on-site. *Ideally one of each type to accommodate technology integrated in schools*
(Interested partners: E-Stem Solutions & AET Labs)

Laser types: Trotec | Epilog

