<u>Skills corresponding to the 4 proposed units of Halacha</u>

Software functions in quotations are named as they are within the software.

<u>Getting Oriented With the Software</u>

- Students will be instructed how to download the software, and how to change views and simply navigate the software's interface, their online accounts (with the online "cloud" containing all of their projects), and creating their first projects. Students will also learn how to take models created by others and "port" them into their own projects

<u>Shiurim</u>

<u>Creating Your First Objects</u>

- "Primitives": Creating shapes using the pre-made shapes by the software. Students will practice placement of the shapes, editing of the dimensions, and scaling of the object
- "Sketches" : Students will be taught the "sketch" and "extrude tools to create more specialized and personalized shapes
- Snapping: students will learn about the "Magnet/Snap" tool, and how you can use this tool to snap a shape onto another shape

<u>Sukkah/Eruv</u>

<u>Advanced Creation and Alteration of Objects</u>

- Shaping and altering specific objects. Functions include: "Push/Pull", "Chamfer", "Fillet", "Tweak"
- More advanced creation of shapes. Functions include: "Hollowing", "Combining", "Grouping", "Subtracting", "Lofting", "Sweeping", "Resolving", "Splitting a face (with a sketch)", "Splitting a solid (with a sketch)", "Creating a pattern with shapes"

<u>Tefillin</u>

<u>Moving Parts</u>

Most advanced topic in 3D design. (I would like to use the 3D printer to print out and example of each method to create an object with moving parts)

- Printing separate parts, and assembling manually. Students will have to carefully record their measurements to ensure the parts fit properly. Example: wheels and axle on a car
- Designing an object in which it has multiple, non-touching parts. Any automatically printed scaffolding will be trimmed to ensure movement. Example: Bike chain