

SESSION 2

3D Printing Remixing with Fusion 360

Session Synopsis

Session 2 moves from **learning the Fusion 360 environment** to applying those skills to a practical 3D-printing workflow.

This session is specifically designed for attendees who want to take **existing 3D printer models and make them their own**.

Instead of starting every project from a blank screen, attendees will learn how to take previously created STL models and use Fusion 360 to analyze, modify, combine, resize, customize, and improve them.

The session introduces the concept of **3D model remixing**—using an existing design as a starting point and transforming it into something better suited to a specific need.

The objective is not simply to teach attendees how to use Fusion 360 commands. The goal is to develop a practical **remixing mindset**:

Find it. Import it. Understand it. Modify it. Improve it. Make it yours. Print it.

Why Fusion 360 for 3D Printing Remixing?

When working with 3D-printed objects, there is an important distinction between **creating a visually appealing 3D model** and **creating a precise, functional part that actually works in the real world**.

AI-powered 3D generation tools such as Meshy and Tripo AI can be useful for quickly creating artistic, organic, or conceptual models from text and images.

However, when the goal is to create a functional mechanical part, modify an existing design to exact dimensions, maintain tight tolerances, or create components that must physically fit together, a traditional parametric CAD platform such as **Autodesk Fusion 360** provides the precision and control required.

Fusion 360 allows attendees to work with exact numerical dimensions, establish design relationships, and make changes to a model while maintaining its underlying design intent.

This makes Fusion 360 particularly valuable when **remixing previously created 3D printer STL models** into new, customized, and functional designs.

From Existing STL to Custom Design

Attendees will learn when an existing model can be modified directly, when it should be converted into editable geometry, and when it is more efficient to use an existing model as a reference and rebuild portions of it using proper parametric techniques.

The workflow will include:

Existing STL → Import → Inspect → Measure → Modify → Combine → Refine → Export

Attendees will learn to look at an existing model not simply as a finished object, but as a **starting point for a new design**.

The Complete Remixing Workflow

One of the primary objectives of Session 2 is to help attendees understand the complete process—not just one individual software package.

FIND

Locate an existing 3D model that provides a useful starting point.

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IMPORT

Bring the STL or other supported model into the Fusion 360 workflow.

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UNDERSTAND

Analyze the model, its dimensions, geometry, components, and potential limitations.

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MODIFY

Change dimensions, add features, remove features, create holes, alter shapes, or combine parts.

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IMPROVE

Optimize the design for strength, fit, function, appearance, and printability.

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EXPORT

Create the appropriate STL or 3MF file for slicing.

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PREPARE

Import the model into Bambu Studio and configure the X1C, filament, build plate, orientation, and support settings.

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SLICE

Generate the printer toolpath and inspect the preview.

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PRINT

Send the finished job to the Bambu Lab X1C and produce the physical object.

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EVALUATE & REMIX AGAIN

Test the printed part, identify what could be improved, return to Fusion 360, make adjustments, and print another iteration.

Bambu Studio 3D Printing to X1C

From Digital Model to Physical Object

Once an STL model has been created or remixed in Fusion 360, the next step is preparing it for physical production.

Bambu Studio provides the bridge between the finished 3D model and the Bambu Lab X1C 3D printer.

Attendees will learn how to take their finished model, prepare it for slicing, evaluate the print settings, and send it to the printer.

Step-by-Step Quick Guide

1. Import the STL File

- Open **Bambu Studio**.
- Click the **Folder/Plus icon** on the top toolbar or drag and drop the .stl file directly onto the virtual build plate.

2. Select Printer and Material Settings

- Choose the appropriate **Printer model**, such as the **Bambu Lab X1 Carbon (X1C)** or P1S, from the top-left drop-down.
- Select the correct **Nozzle diameter**, typically **0.4 mm**, and the appropriate **Plate type**, such as the Textured PEI Plate.
- Under **Filament**, select the appropriate material and color, such as Bambu PLA Basic.

3. Position and Scale the Model

- Use the top menu tools to **Move, Rotate, or Scale** the model.
- Position the model appropriately on the build plate.
- Consider how orientation affects strength, surface quality, print time, and support requirements.
- Enable **Supports** when the model contains steep overhangs or other geometry that cannot be printed reliably without support.

4. Slice the Plate

- Click the green **Slice Plate** button in the top-right corner.
 - Review the **Preview** screen.
 - Check estimated print time, layer lines, support structures, and filament usage.
 - Examine the sliced model for obvious problems before sending the job to the printer.
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Session 2 Takeaway

By the end of Session 2, attendees should understand how to move from an **existing 3D printer STL model to a customized, functional physical object.**

The session connects CAD design with actual 3D printing and demonstrates that the process does not have to end when a model is downloaded.

Instead, attendees can:

Download → Modify → Customize → Improve → Print → Test → Modify Again

The ultimate goal is to move from simply **downloading and printing someone else's STL** to understanding how to **take an existing design, change it to meet a specific need, and produce a functional customized object.**

Course Connection

Together, the two sessions establish a complete introductory workflow:

SESSION 1

Learn Fusion 360

Navigation • Interface • Components • Sketches • Constraints • Shortcuts • Timeline • Cloud Data

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SESSION 2

Use Fusion 360

STL Remixing • Measurements • Modifications • Tolerances • Design Improvements • Bambu Studio • X1C Printing

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FINAL OBJECTIVE

Don't just download it and print it. Learn how to make it yours.