

CACM Printer Farm Setup

A Student User Guide for 3D Printer OS Slicer



The CACM Digital Fabrication Lab 3D printer farm is accessible to all CACM students. The following guide will provide the steps necessary for accessing 3D Printer OS and its slicer.

3D Printing Farm Policy

- 1) Allotments are based on academic year. 1st year \$3, 2nd year \$8, 3rd year \$12, 4th year \$15, 5th year \$20
- 2) Prints start on first come, first serve basis within the queue
- 3) Each student may queue up to 1 job at a time
- 4) Only CACM class projects are permitted, no personal printing is available

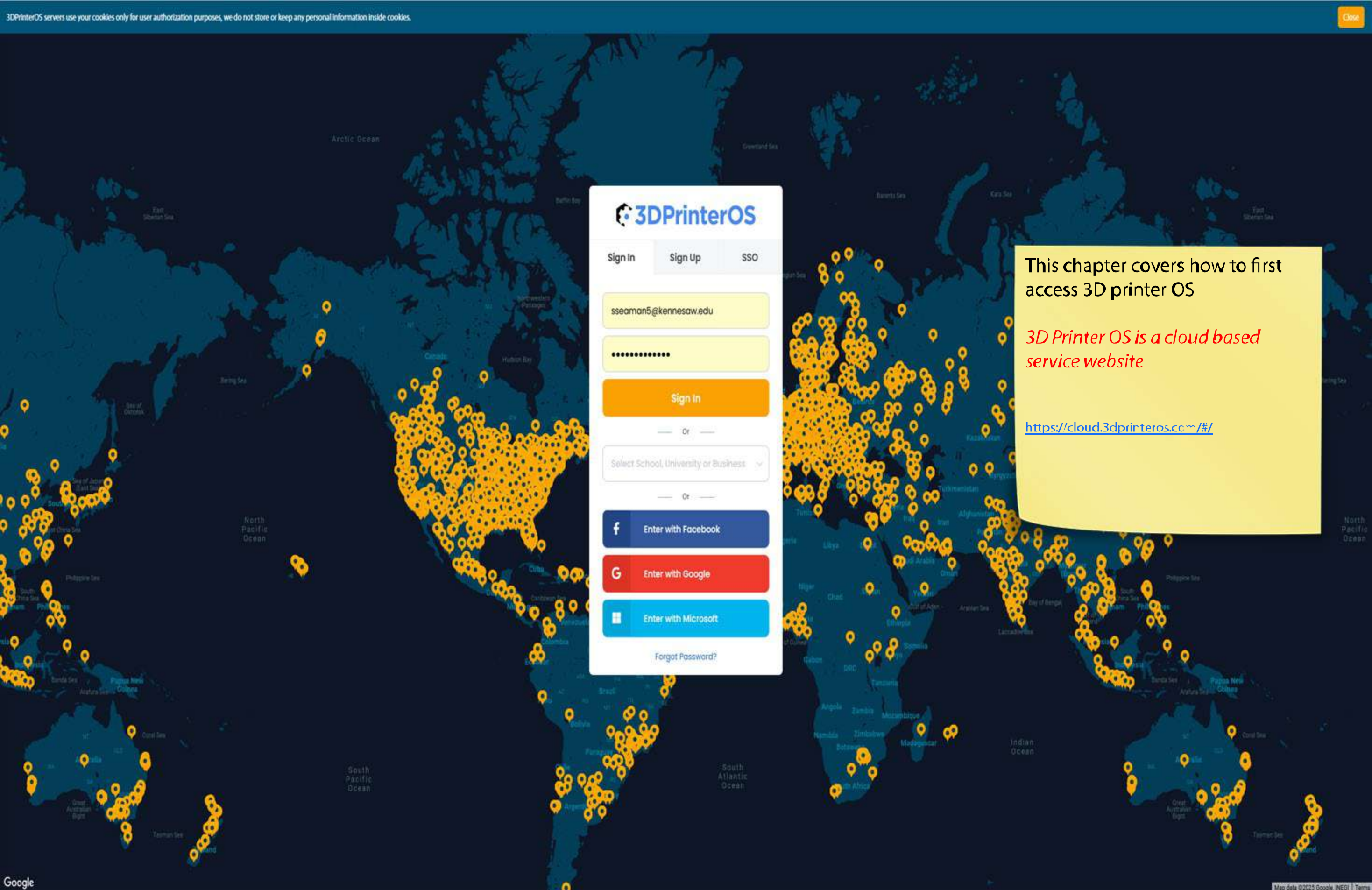
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Chapter 1

Getting Access to 3D Printer OS





Sign In

Sign Up


SSO


Sign In


Or

Select School, University or Business

Or

 Enter with Facebook

 Enter with Google

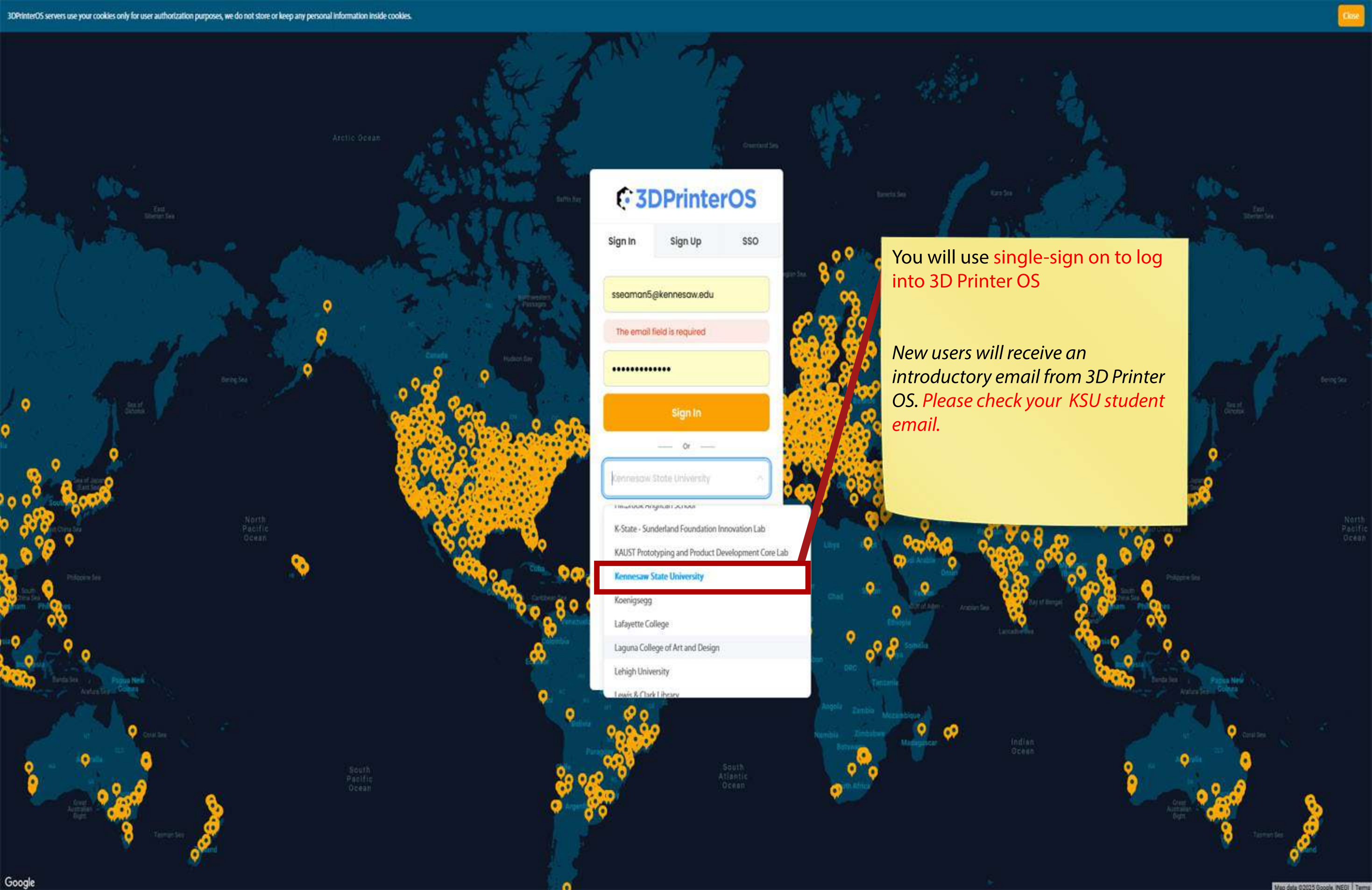
 Enter with Microsoft


Forgot Password?

This chapter covers how to first access 3D printer OS

3D Printer OS is a cloud based service website

<https://cloud.3dprinter0s.com/#/>





Sign In

Sign Up

SSO

sseaman5@kennesaw.edu

The email field is required

.....

Sign In

Or

Kennesaw State University

Instantiated organization

K-State - Sunderland Foundation Innovation Lab

KAUST Prototyping and Product Development Core Lab

Kennesaw State University

Koenigsegg

Lafayette College

Laguna College of Art and Design

Lehigh University

Lewis & Clark Library


















You will use single-sign on to log into 3D Printer OS

New users will receive an introductory email from 3D Printer OS. Please check your KSU student email.



Chapter 2

Uploading a file to 3D Printer OS

	UMS3_M_3DPrintFinal-2 gcode US3 13 prints	\$1.93	21:49h	9.1 MB	8d ago	PreviewPrint
	UMS3_Button gcode US3 1 print	\$0.01	00:16h	435.9 KB	9d ago	PreviewPrint
	UMS3_M_3DPrintFinal gcode US3 12 prints	\$3.11	34:47h	14.3 MB	10d ago	PreviewPrint
	UMS3_C_ConcreteFinal-resin gcode US3 1 print	\$2.16	29:07h	10.4 MB	11d ago	
	UMS3_M_3DPrintFinal-raft gcode US3 7 prints	\$3.28	35:02h	13.9 MB	11d ago	
	UMS3_M_3DPrintFinal-raft 2 gcode US3 2 prints	\$2.23	24:13h	9.5 MB	11d ago	
	UMS3_C_ResinFinal-raft gcode US3 15 prints	\$1.15	14:15h	5.1 MB	12d ago	
	UMS3_C_ResinFinal gcode US3 7 prints	\$1.05	11:19h	4.9 MB	13d ago	
	UMS3_C_ConcreteFinal gcode US3 1 print	\$1.09	14:21h	5.4 MB	13d ago	
	UMS3_C_ConcreteFinal gcode US3	\$1.08	13:58h	5.1 MB	13d ago	PreviewPrint
	UMS3_C_ConcreteFinal gcode US3 2 prints	\$1.06	11:39h	5.2 MB	13d ago	PreviewPrint
	UMS3_A_WoodFinal gcode US3 1 print	\$1.03	11:28h	4.9 MB	13d ago	PreviewPrint
	UMS3_M_3DPrintFinal gcode US3 1 print	\$1.04	11:19h	4.7 MB	13d ago	PreviewPrint
	UMS3_Inside without H gcode US3 1 print	\$0.90	12:02h	20.1 MB	15d ago	PreviewPrint
	UMS3_top final gcode US3 1 print	\$0.77	01:11h	2.6 MB	15d ago	PreviewPrint
	UMS3_top retraction gcode US3 1 print	\$0.18	00:23h	1.1 MB	15d ago	PreviewPrint
	UMS3_top.speed flow gcode US3 1 print	\$0.18	00:23h	1.1 MB	15d ago	PreviewPrint

When you first log in you will be taken to the files tab.

















There are only a few tabs you will have to know.

Let's go over them.

This is where you upload and store your g.code or .stl files.

g.code: is the programming language used to control 3D printers.













































Stl file: is a file type used for 3D printing.

	UMS3_Button	gcode	US3	1 print		00:16h	435.9 KB	9d ago	Preview	Print	
	UMS3_M_3DPrintFinal	gcode	US3	12 prints		34:47h	14.3 MB	10d ago	Preview	Print	
	UMS3_C_ConcreteFinal	gcode	US3	1 print		29:07h	10.4 MB	11d ago	Preview	Print	
	UMS3_M_3DPrintFinal	gcode	US3	7 prints		35:02h	13.9 MB	11d ago	Preview	Print	
	UMS3_M_3DPrintFinal	gcode	US3	2 prints		24:13h	9.5 MB	11d ago	Preview	Print	
	UMS3_C_ResinFinal-raft	gcode	US3	15 prints		14:15h	5.1 MB	12d ago	Preview	Print	
	UMS3_C_ResinFinal	gcode	US3	7 prints		11:19h	4.9 MB	13d ago	Preview	Print	
	UMS3_C_ConcreteFinal	gcode	US3	1 print		14:21h	5.4 MB	13d ago	Preview	Print	
	UMS3_C_ConcreteFinal	gcode	US3			13:58h	5.1 MB	13d ago	Preview	Print	
	UMS3_C_ConcreteFinal	gcode	US3	2 prints		11:39h	5.2 MB	13d ago	Preview	Print	
	UMS3_A_WoodFinal	gcode	US3	1 print		11:28h	4.9 MB	13d ago	Preview	Print	
	UMS3_M_3DPrintFinal	gcode	US3	1 print		11:19h	4.7 MB	13d ago	Preview	Print	
	UMS3_Inside without H	gcode	US3	1 print		12:02h	20.1 MB	15d ago	Preview	Print	
	UMS3_top final	gcode	US3	1 print		01:11h	2.6 MB	15d ago	Preview	Print	
	UMS3_top retraction	gcode	US3	1 print		00:23h	1.1 MB	15d ago	Preview	Print	
	UMS3_top.speed flow	gcode	US3	1 print		00:23h	1.1 MB	15d ago	Preview	Print	

Select here to see available 3D Printers



































1st and 2nd year only have access to Ultimaker S3 series

3rd, 4th, and 5th year have access to both the Ultimaker S3 and S5 series.

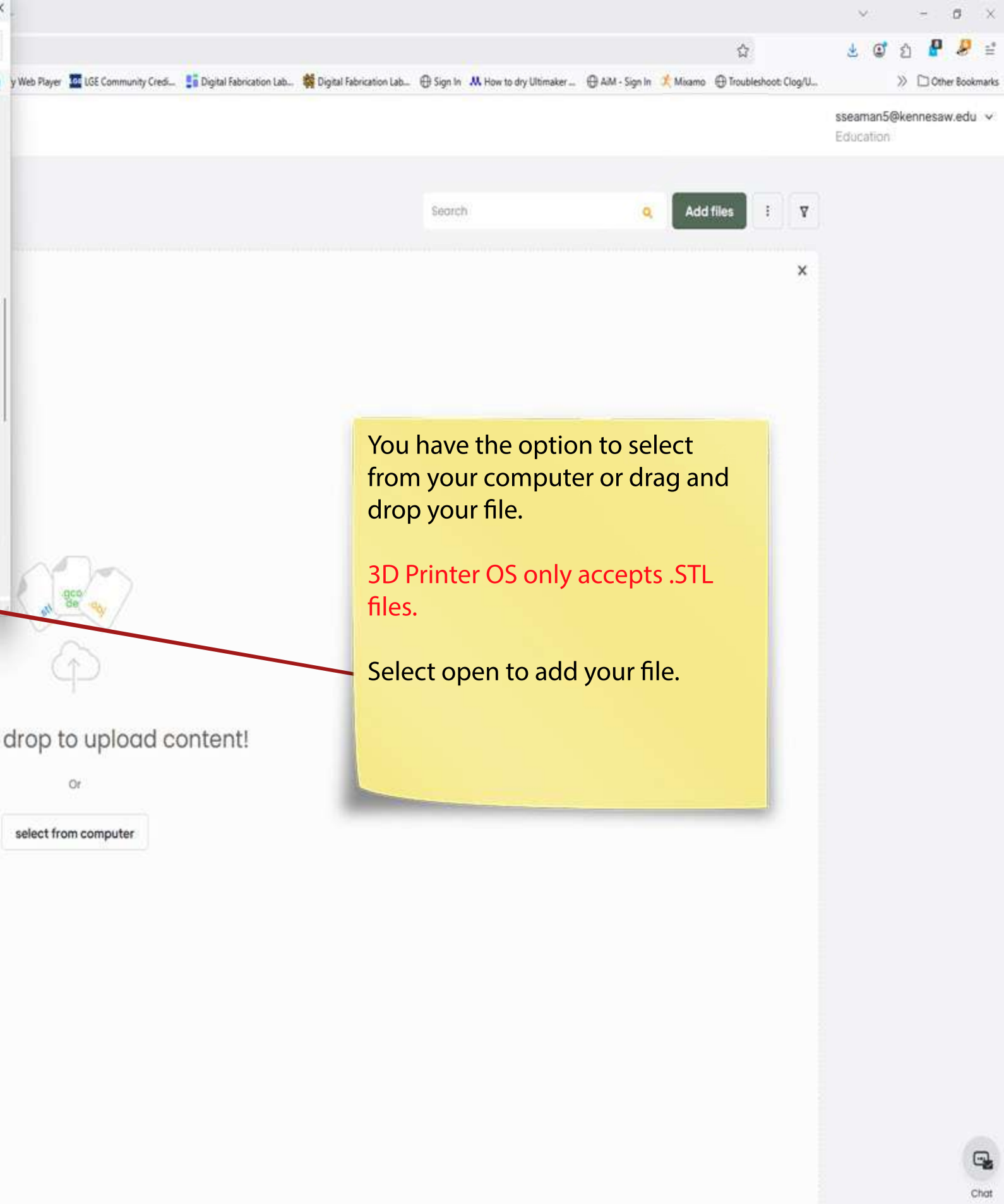
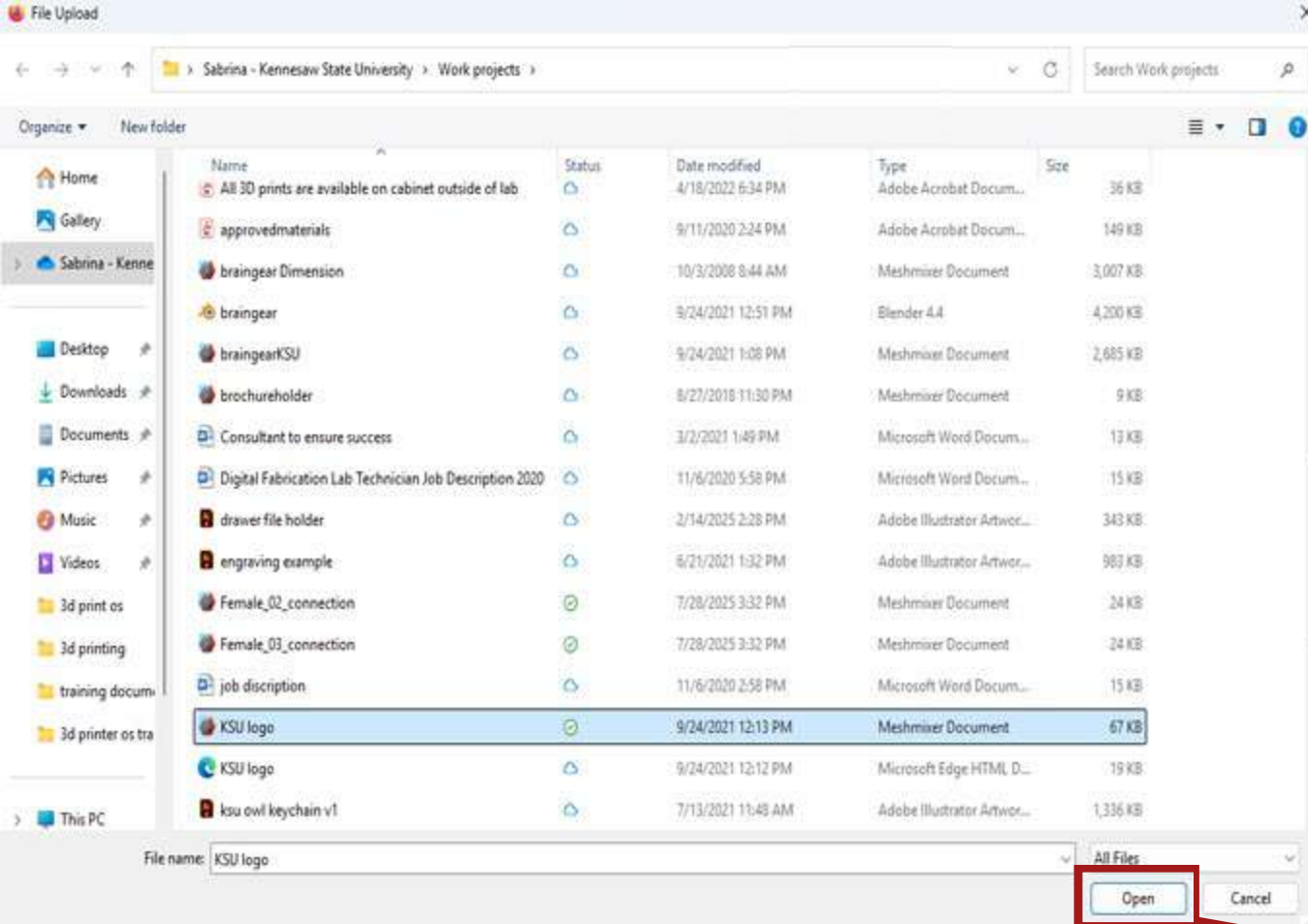
 ARCH-02 Ultimaker S3		Extruder 2 28.8 C	Extruder 1 28.1 C	Heated bed 28.5 C	<input type="checkbox"/> Build Tray is clear 	
 ARCH-03 Ultimaker S3		Extruder 2 28.9 C	Extruder 1 28.3 C	Heated bed 28.4 C	<input type="checkbox"/> Build Tray is clear 	
 ARCH-04 Ultimaker S3		Extruder 2 28 C	Extruder 1 28.2 C	Heated bed 28.1 C	<input type="checkbox"/> Build Tray is clear 	
 ARCH-05 Ultimaker S3	Black P...	Extruder 2 27.9 C	Extruder 1 28.7 C	Heated bed 28.3 C	<input type="checkbox"/> Build Tray is clear 	
 ARCH-06 Ultimaker S3	 PLA - 0.25mm	Extruder 2 29.1 C	Extruder 1 28.1 C	Heated bed 28.8 C	<input type="checkbox"/> Build Tray is clear 	
 ARCH-07 Ultimaker S3	 PLA - 0.4mm	Extruder 2 28.3 C	Extruder 1 28.7 C	Heated bed 28.6 C	<input type="checkbox"/> Build Tray is clear 	
 ARCH-08 Ultimaker S3	 PLA - 0.4mm	Extruder 2 28.8 C	Extruder 1 28.4 C	Heated bed 28.6 C	<input type="checkbox"/> Build Tray is clear 	
 ARCH-09 Ultimaker S3	 PLA - 0.4mm	Extruder 2 27.8 C	Extruder 1 27.6 C	Heated bed 27.4 C	<input type="checkbox"/> Build Tray is clear 	
 ARCH-10 Ultimaker S3	Fussy  PLA - 0.4mm	Extruder 2 28.3 C	Extruder 1 28.3 C	Heated bed 28.7 C	<input type="checkbox"/> Build Tray is clear 	
 ARCH-11 Ultimaker S3	 PLA - 0.4mm	Extruder 2 27.9 C	Extruder 1 27.6 C	Heated bed 27.9 C	<input type="checkbox"/> Build Tray is clear 	
 ARCH-12 Ultimaker S3	 PLA - 0.4mm	Extruder 2 28.6 C	Extruder 1 27.7 C	Heated bed 27.8 C	<input type="checkbox"/> Build Tray is clear 	
 ARCH-13 Ultimaker S3	 PLA - 0.4mm	Extruder 2	Extruder 1	Heated bed	<input type="checkbox"/> Build Tray is clear 	

FilesProjectsSearch design

SearchAdd files

	UMS3_M_3DPrintFinal-2	 US3 13 prints	\$1.93	21:49h	9.1 MB	8d ago	PreviewPrint
	UMS3_Button	 US3 1 print	\$0.01	00:16h	435.9 KB	9d ago	PreviewPrint
	UMS3_M_3DPrintFinal	 US3 12 prints	\$3.11	34:47h	14.3 MB	10d ago	PreviewPrint
	UMS3_C_ConcreteFinal-resin	 US3 1 print	\$2.16	29:07h	10.4 MB	11d ago	PreviewPrint
	UMS3_M_3DPrintFinal-raft	 US3 7 prints	\$3.28	35:02h	13.9 MB	11d ago	PreviewPrint
	UMS3_M_3DPrintFinal-raft 2	 US3 2 prints	\$2.23	24:13h	9.5 MB	11d ago	PreviewPrint
	UMS3_C_ResinFinal-raft	 US3 15 prints	\$1.15	14:15h	5.1 MB	12d ago	PreviewPrint
	UMS3_C_ResinFinal	 US3 7 prints	\$1.05	11:19h	4.9 MB	13d ago	PreviewPrint
	UMS3_C_ConcreteFinal	 US3 1 print	\$1.09	14:21h	5.4 MB	13d ago	PreviewPrint
	UMS3_C_ConcreteFinal	 US3	\$1.08	13:58h	5.1 MB	13d ago	PreviewPrint
	UMS3_C_ConcreteFinal	 US3 2 prints	\$1.06	11:39h	5.2 MB	13d ago	PreviewPrint
	UMS3_A_WoodFinal	 US3 1 print	\$1.03	11:28h	4.9 MB	13d ago	PreviewPrint
	UMS3_M_3DPrintFinal	 US3 1 print	\$1.04	11:19h	4.7 MB	13d ago	PreviewPrint
	UMS3_Inside without H	 US3 1 print	\$0.90	12:02h	20.1 MB	15d ago	PreviewPrint
	UMS3_top final	 US3 1 print	\$0.77	01:11h	2.6 MB	15d ago	PreviewPrint
	UMS3_top retraction	 US3 1 print	\$0.18	00:23h	1.1 MB	15d ago	PreviewPrint
	UMS3_top.speed flow	 US3 1 print	\$0.18	00:23h	1.1 MB	15d ago	PreviewPrint

Click Add files to get started.













Files

Projects

Search design

Search

Add files

 KSU logo	stl	66.2 KB	recently	Layout	Slice	
 UMS3_M_3DPrintFinal-2	gcode US3 13 prints	\$1.93	21:49h	9.1 MB	9d ago	Preview Print
 UMS3_Button	gcode US3 1 print	\$0.01	00:16h	155.9 KB	10d ago	
		\$3.11	34:47h	14.3 MB	12d ago	
		\$2.16	29:07h	10.4 MB	12d ago	
		\$3.28	35:02h	13.9 MB	12d ago	
		\$2.23	24:13h	9.5 MB	12d ago	
		\$1.15	14:15h	5.1 MB	13d ago	
		\$1.05	10:19h	4.9 MB	14d ago	
		\$1.09	14:21h	5.4 MB	14d ago	
 UMS3_C_ConcreteFinal	gcode US3	\$1.08	13:58h	5.1 MB	14d ago	Preview Print
 UMS3_C_ConcreteFinal	gcode US3 2 prints	\$1.06	11:39h	5.2 MB	14d ago	Preview Print
 UMS3_A_WoodFinal	gcode US3 1 print	\$1.03	11:29h	4.9 MB	14d ago	Preview Print
 UMS3_M_3DPrintFinal	gcode US3 1 print	\$1.04	11:19h	4.7 MB	14d ago	Preview Print
 UMS3_Inside without H	gcode US3 1 print	\$0.90	12:02h	20.1 MB	16d ago	Preview Print
 UMS3_top final	gcode US3 1 print	\$0.77	01:11h	2.6 MB	16d ago	Preview Print
 UMS3_top retraction	gcode US3 1 print	\$0.18	00:23h	1.1 MB	16d ago	Preview Print

Your file will appear at the top of the files tab.

You will now have the option to slice your file within 3D Printer OS.

Hit slice to bring up the 3D Printer OS slicer.



Chapter 3

Slicing a file in 3D Printer OS

Simple Mode

Expert Mode

Extra

Price

JSON

Save these settings as a slicing profile...

Printer Type

Profile

Extruder

Print Core

Material


Ultimaker S3

Arch S3 Fast profile

Default

AA 0.4

PLA



☒ Re-center object before slicing


EXTRUDER 1

EXTRUDER 2

Layer Height

0.2


mm



Wall Thickness

0.8


mm



Infill Density

10

%



Printing Temperature

200

°C

Build Plate Temperature

60

°C

Build Plate Adhesion Type

Raft

Generate Support

Support Extruder

SLICE

SLICE & TOOLPATH PREVIEW

This is the 3D Printer OS Slicer.

In here you can set up your .stl file to 3D print on the 3D printer farm.

Let's go over some settings to get you started.

11:19h

4.9 MB

14d ago

14:21h

5.4 MB

14d ago

\$1.08

13:58h

5.1 MB

14d ago



Simple Mode

Printer Type

Ultimaker S3



Profile

Arch S3 Fast profile



Extruder

Default



Print Core

AA 0.4



Material

PLA



- Favorite Printers

Ultimaker S3

Ultimaker S5

Printer Type, you can use this to select your 3D printer.

Students can select from Ultimaker S3 and Ultimaker S5.

Please note that 1st and 2nd year students can only access the Ultimaker S3.



EXTRUDER 1



EXTRUDER 2

Layer Height

0.2

mm

Wall Thickness

0.8

mm

Infill Density

10

%

Printing Temperature

200

°C

Build Plate Temperature

60

°C

Build Plate Adhesion Type

Raft



Generate Support

Support Extruder

SLICE

SLICE & TOOLPATH PREVIEW

Simple Mode

Printer Type

Ultimaker S3

Profile

Arch S3 Fast profile

My Slicing Profiles

Arch S3 Fast profile

Arch S3 Normal profile

Extruder

Default

Print Core

AA 0.4

Material

PLA

EXTRUDER 1

EXTRUDER 2

Layer Height

0.2

mm

Wall Thickness

0.8

mm

Infill Density

10

%

Printing Temperature

200

°C

Build Plate Temperature

60

°C

Build Plate Adhesion Type

Raft

Generate Support

Support Extruder

BACK

SLICE

SLICE & TOOLPATH PREVIEW

Profile, here you can select the printing profile you want to use.

Students have different options to choose from. This determines the parameters of your 3D print.

Simple Mode

Expert Mode

Extra

Price

JSON

Save these settings as a slicing profile...

Printer Type

Ultimaker S3



Profile

Arch S3 Fast profile



Extruder

Default



Print Core

AA 0.4



Material

PLA



Layer Height

0.2

mm

Wall Thickness

0.8

mm

Infill Density

10

%

Printing Temperature

200

°C

Build Plate Temperature

60

°C

Build Plate Adhesion Type

Raft



Generate Support



Support Extruder

Extruder 1



BACK

SLICE

SLICE & TOOLPATH PREVIEW

These are the settings that are changed depending on the profile chosen.

We highly recommend that students do not adjust these settings.

\$1.05

11:19h

4.9 MB

14d ago

Simple Mode

Expert Mode

Extra

Price

JSON

Save these settings as a slicing profile...

Printer Type

Ultimaker S3



Profile

Arch S3 Fast profile



Extruder

Default



Print Core

AA 0.4



Material

PLA



Layer Height

0.2

mm

Wall Thickness

0.8

mm

Infill Density

10

%

Printing Temperature

200

°C

Build Plate Temperature

60

°C

Build Plate Adhesion Type

Raft



Generate Support



Support Extruder

Extruder 1



BACK

SLICE

SLICE & TOOLPATH PREVIEW

When ready hit slice & toolpath preview.

\$1.05

11:19h

4.9 MB

14d ago



Camera



View layers



Info



Slice Info



Print

Ultimaker S3

Filament1: 31.68 g

Filament2: 0 g

Estimated print time: 02:29:17

Cost: \$0.79

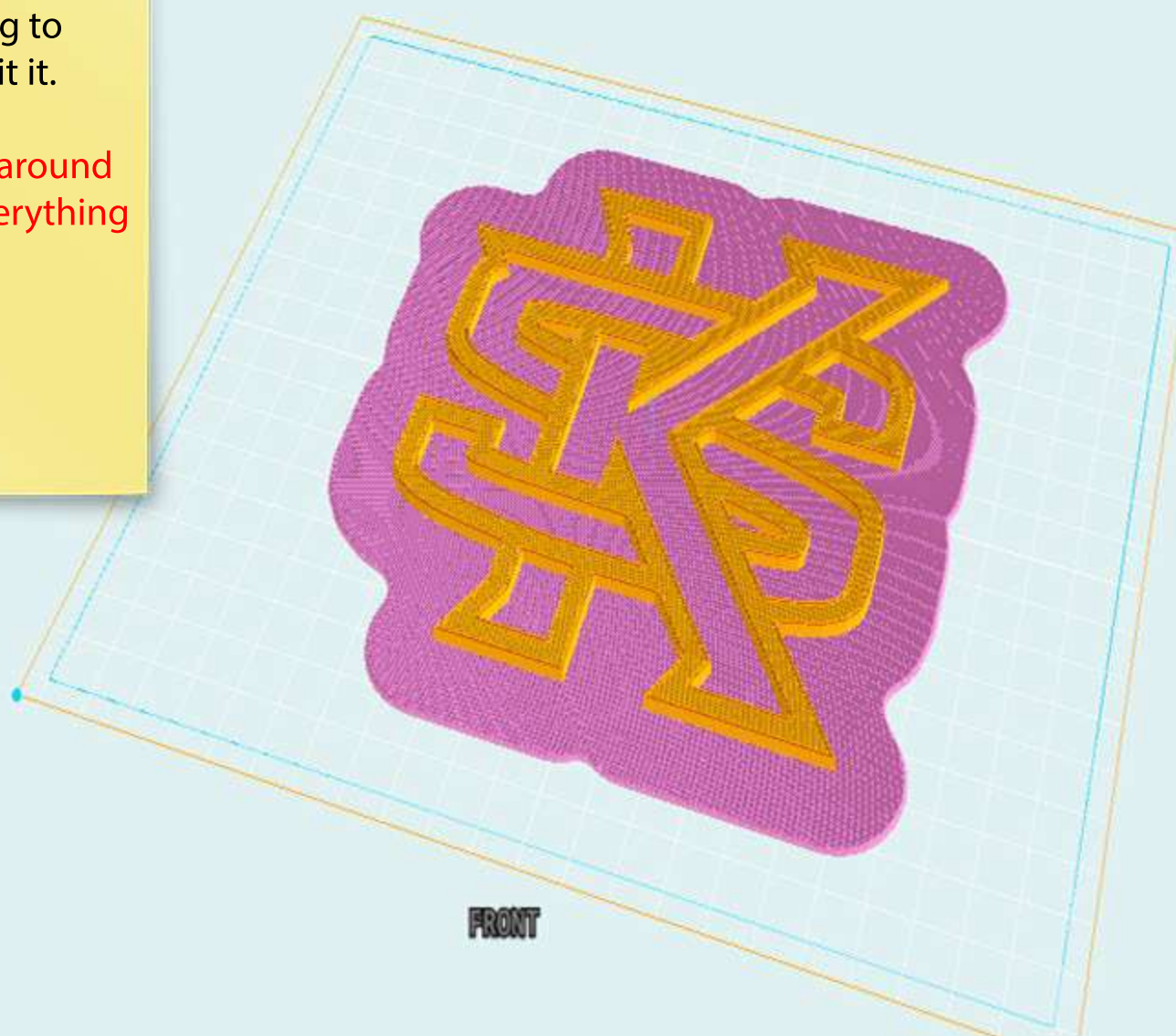
Speed
mm/
min4300
4200
4100
4000
3900
3800
3700
3600
3500
3400
3300
3200
3100
3000
2900
2800
2700
2600
2500
2400
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200

Supports



Here you can get a preview of what your 3D print is going to look like before you submit it.

Use your mouse to rotate around your part to make sure everything looks right.



Layers

16

Range

Height: 3.475mm

0

0

16

☐ Show Extrusion☐ Show Infill☐ Show Service Parts☐ Show Motion☐ Color Scheme: Print Types

Animation





Camera



View layers



Info



Slice Info



Print

Ultimaker S3

Filament1: 31.68 g

Filament2: 0 g

Estimated print time: 02:29:17

Cost: \$0.79

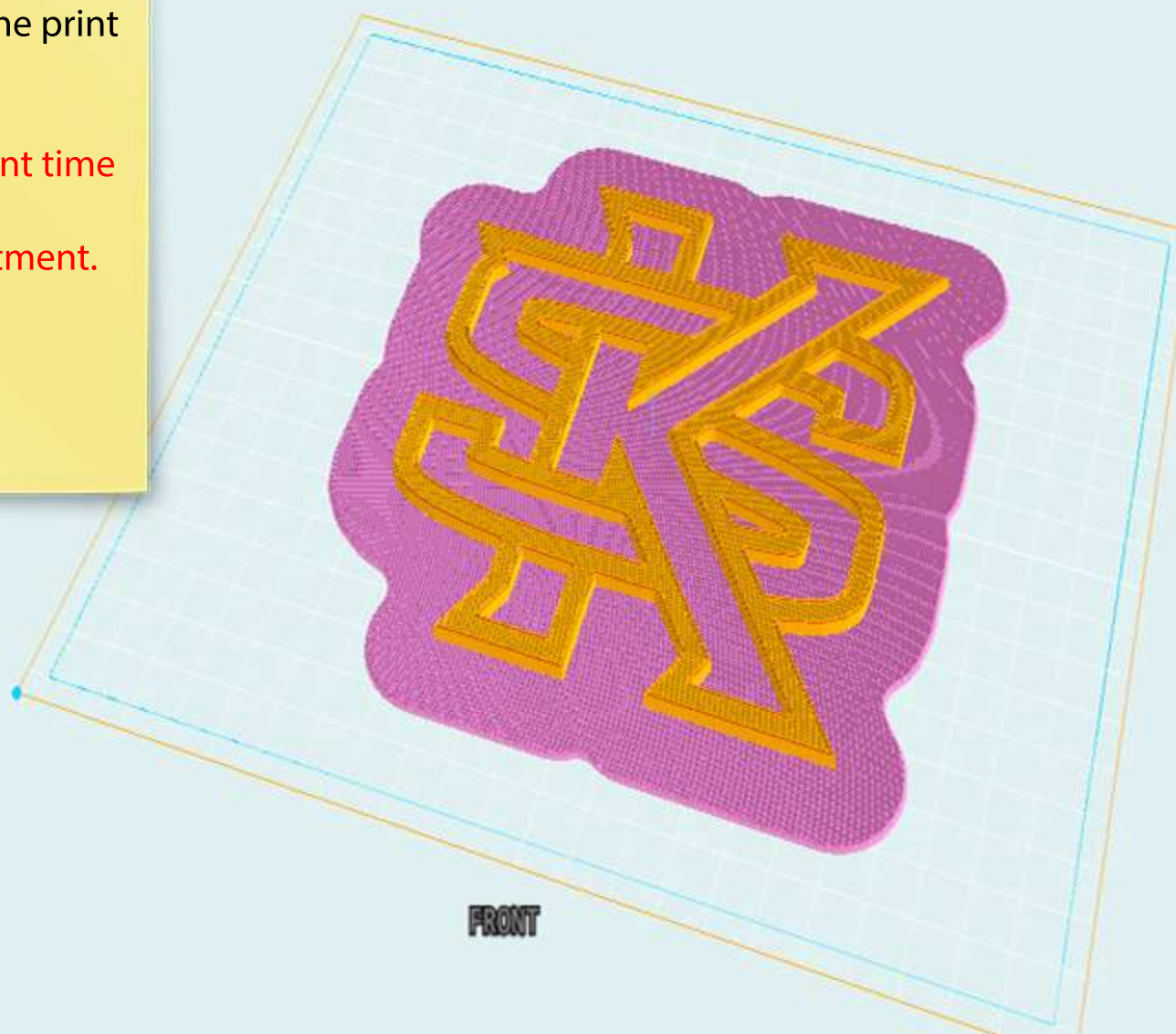
Speed
mm/
min4300
4200
4100
4000
3900
3800
3700
3600
3500
3400
3300
3200
3100
3000
2900
2800
2700
2600
2500
2400
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200

Supports



Above shows the amount of filament used, how long the print will take, and the cost.

Please take note of the print time in cost as it relates to your projects and filament allotment.



Layers

16

Range

Height : 3.475mm

0

0

16

☐ Show Extrusion☐ Show Infill☐ Show Service Parts☐ Show Motion☐ Color Scheme: Print Types

Animation





Camera



View layers



Info



Slice Info



Print

Ultimaker S3

Filament1: 31.68 g

Filament2: 0 g

Estimated print time: 02:29:17

Cost: \$0.79

Speed
mm/
min4300
4200
4100
4000
3900
3800
3700
3600
3500
3400
3300
3200
3100
3000
2900
2800
2700
2600
2500
2400
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200

Supports



FRONT

If everything looks right, you will
then select Print.

Layers

16

Range

Height: 3.475mm

0

16

☐ Show Extrusion☐ Show Infill☐ Show Service Parts☐ Show Motion☐ Color Scheme: Print Types

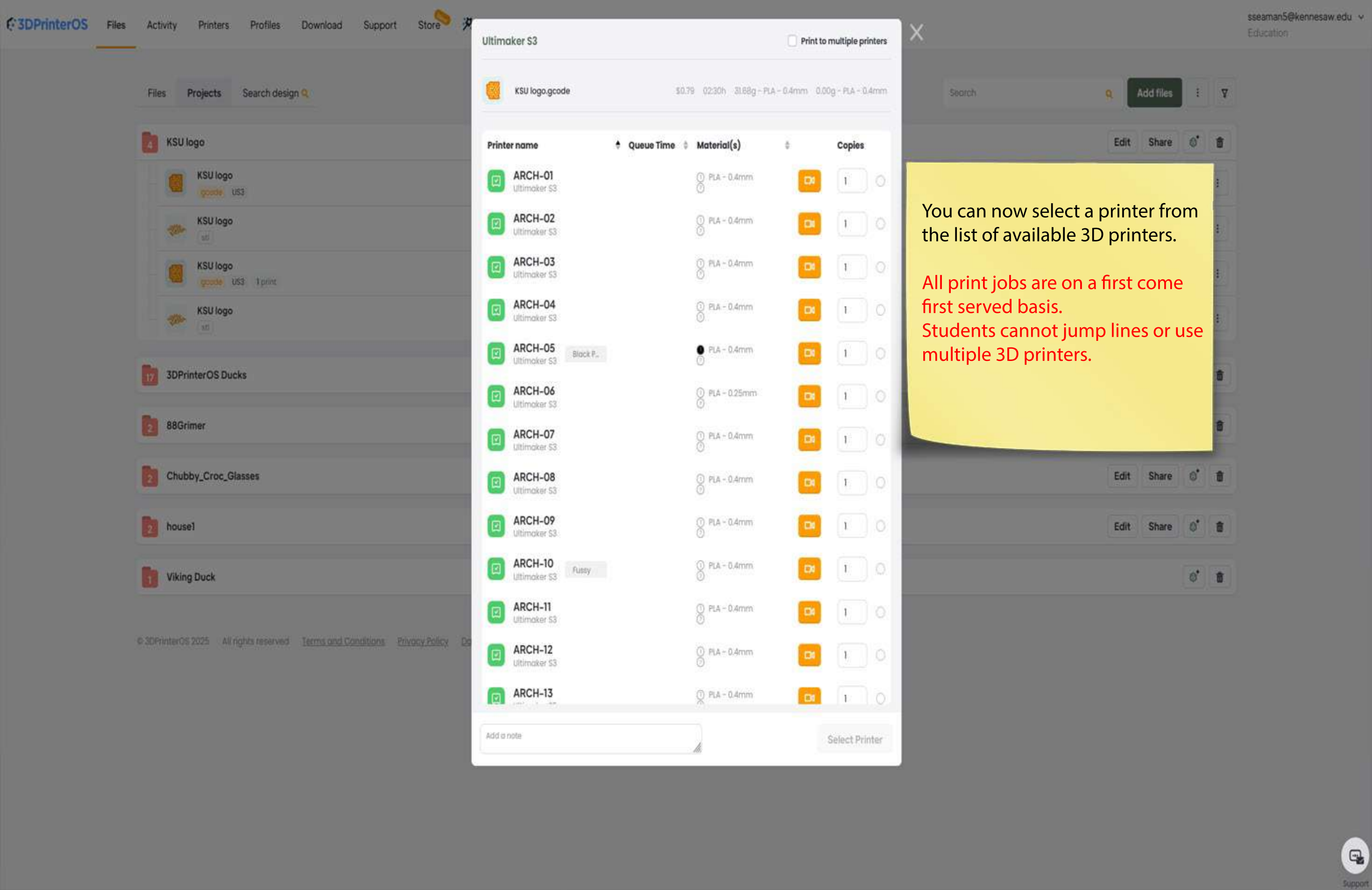
Animation





Chapter 4

Submitting a sliced file to the 3D Printer farm










































Ultimaker S3

☐ Print to multiple printers



KSU logo.gcode

\$0.79 02:30h 31.68g - PLA - 0.4mm 0.00g - PLA - 0.4mm

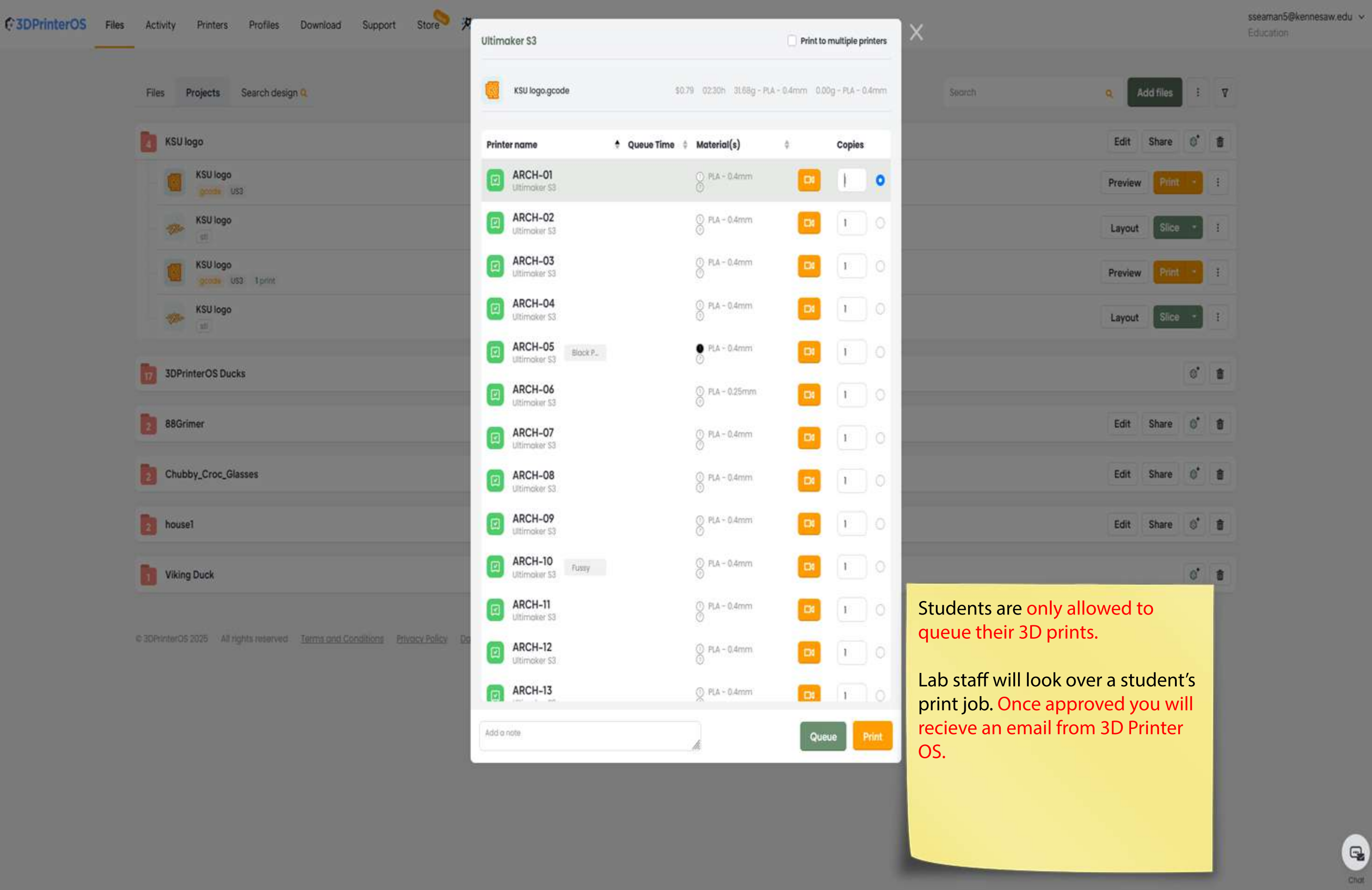
Printer name	Queue Time	Material(s)	Copies
 ARCH-01 Ultimaker S3		 PLA - 0.4mm	 1
 ARCH-02 Ultimaker S3		 PLA - 0.4mm	 1
 ARCH-03 Ultimaker S3		 PLA - 0.4mm	 1
 ARCH-04 Ultimaker S3		 PLA - 0.4mm	 1
 ARCH-05 Ultimaker S3	Black P...	 PLA - 0.4mm	 1
 ARCH-06 Ultimaker S3		 PLA - 0.25mm	 1
 ARCH-07 Ultimaker S3		 PLA - 0.4mm	 1
 ARCH-08 Ultimaker S3		 PLA - 0.4mm	 1
 ARCH-09 Ultimaker S3		 PLA - 0.4mm	 1
 ARCH-10 Ultimaker S3	Fussy	 PLA - 0.4mm	 1
 ARCH-11 Ultimaker S3		 PLA - 0.4mm	 1
 ARCH-12 Ultimaker S3		 PLA - 0.4mm	 1
 ARCH-13 Ultimaker S3		 PLA - 0.4mm	 1

Add a note

Select Printer

You can now select a printer from the list of available 3D printers.

All print jobs are on a first come first served basis.
Students cannot jump lines or use multiple 3D printers.



Ultimaker S3

☐ Print to multiple printers

KSU logo.gcode \$0.79 02:30h 31.68g - PLA - 0.4mm 0.00g - PLA - 0.4mm

Printer name	Queue Time	Material(s)	Copies
<input checked="" type="checkbox"/> ARCH-01 Ultimaker S3		1 PLA - 0.4mm 0	<input checked="" type="checkbox"/> 1
<input checked="" type="checkbox"/> ARCH-02 Ultimaker S3		1 PLA - 0.4mm 0	<input type="checkbox"/> 1
<input checked="" type="checkbox"/> ARCH-03 Ultimaker S3		1 PLA - 0.4mm 0	<input type="checkbox"/> 1
<input checked="" type="checkbox"/> ARCH-04 Ultimaker S3		1 PLA - 0.4mm 0	<input type="checkbox"/> 1
<input checked="" type="checkbox"/> ARCH-05 Ultimaker S3	Block P...	1 PLA - 0.4mm 0	<input type="checkbox"/> 1
<input checked="" type="checkbox"/> ARCH-06 Ultimaker S3		1 PLA - 0.25mm 0	<input type="checkbox"/> 1
<input checked="" type="checkbox"/> ARCH-07 Ultimaker S3		1 PLA - 0.4mm 0	<input type="checkbox"/> 1
<input checked="" type="checkbox"/> ARCH-08 Ultimaker S3		1 PLA - 0.4mm 0	<input type="checkbox"/> 1
<input checked="" type="checkbox"/> ARCH-09 Ultimaker S3		1 PLA - 0.4mm 0	<input type="checkbox"/> 1
<input checked="" type="checkbox"/> ARCH-10 Ultimaker S3	Fussy	1 PLA - 0.4mm 0	<input type="checkbox"/> 1
<input checked="" type="checkbox"/> ARCH-11 Ultimaker S3		1 PLA - 0.4mm 0	<input type="checkbox"/> 1
<input checked="" type="checkbox"/> ARCH-12 Ultimaker S3		1 PLA - 0.4mm 0	<input type="checkbox"/> 1
<input checked="" type="checkbox"/> ARCH-13 Ultimaker S3		1 PLA - 0.4mm 0	<input type="checkbox"/> 1

Add a note

Queue

Print

Students are **only allowed to queue their 3D prints.**

Lab staff will look over a student's print job. **Once approved you will receive an email from 3D Printer OS.**