USC ARCHITECTURE Digital Fabrication

Faculty Application and Guidelines for access to Digital Fabrication for class projects

Guidelines: All use will need to be class specific, approved by Gail Borden and coordinated with Scott Mitchell or Will Rollins. All applications will be reviewed on a first come first served basis and should be submitted to Will Rollins rollins.soverhill@usc.edu at least two weeks in advance. The approval of this application does not guarantee delivery.
Current capacity is primarily controlled by three main factors: Equipment, Staff and Time.
We currently have: 1 full time staff member - Will Rollins who is the Digital Fabrication Manager
And 15 workstudy who generally speaking, run the department.

- 4 - uPrint ABS 3D printers with build areas of 6" x 8" x 6", and 8"x 8" x 6"
- 1 - Zcorp Powder Full Color 3D printer with a build area of 10"x15"x 8"
- 1 - Objet30 Prime Polyjet 3D printer with a build area of 11.5 "x 7.5 "x 5.85"
- 1 - Tecno CNC Router with a build area of 4' x 8' x 5" (depth depends on geometry and bit length)
- 3 - Universal 120 watt Laser cutters with a build area of 18" x 32"

Forms are available on the USC website.
http://arch.usc.edu/sites/default/files/info/students/2013_faculty_application_for_access_to_digital_fabrication.pdf

Laser cutting requires no application for use. Students are able to sign up online for appointments for up to 1 hour at a time, up to one week in advance. The cost is $20 per hour.
They are generally open for use during Fall and Spring semesters:
Open 7 Days a week 10:00am - 9:00pm **Closed during Studio** M,W,F 2-6
Keep in mind the cost of materials and some materials take longer to cut.
The cheapest and quickest materials to cut are typically paper products.
More expensive materials like acrylic and wood typically take longer to cut.

3D Printing does require an application for use. The application should be submitted to the Digital Fabrication Manager as early as possible and will be reviewed on a first come first served basis. Classes that require small initial projects enable students to have fewer problems during mid terms & finals. The price for both powder and ABS prints is $10 per cubic inch. Powder prints cost less and print faster but are not as strong. ABS prints take much longer and cost more due to the support material. Due to the limited number of printers the following guidelines should be followed.

- Students must submit STL files via email arch3dp@usc.edu or in person via flash drive.
- Units should be inches.
- ABS and Polyjet prints should maintain a minimum wall thickness of .04"
- Powder prints should maintain a minimum wall thickness of .06"
- Model should be solid with uniform normals and exported near the origin at .0001" mesh tolerance.
- Powder prints must be excavated and depowdered by the students. When the print is started the student will be informed via email when they need to come to excavate. If a student does not show up, the print will be excavated by the staff and if the print breaks it will not be reprinted unless paid for again. If the student is advised their file is delicate and may break, it is the student's responsibility. No refunds or reprints unless paid for again.
- If an entire class is printing in ABS, they will be limited to the use of two machine unless there is no additional demand.
- Generally turn around on 3D prints is one week or less, but may take longer during peak times

CNC Router will require an application for use. The application should be submitted to the Digital Fabrication Manager as early as possible and will be reviewed on a first come first served basis. The cost for CNC routing is $25 per hour.

- Students must submit Rhino 5 files via email arch3dp@usc.edu or in person via flash drives..
- Students must bring their material to the CNC room. Only after the file and material have been received will the student be placed in the queue to be milled.
- Students will be informed via email when their mill is ready to be picked up.
- Generally turn around is 1 - 2 weeks. Please contact Will Rollins to go over the specific limitations and capabilities of the CNC router.

Please fill out the form below to apply for use of the Digital Fabrication Facilities.

Seminars given by Will Rollins will be available by email request rollins.soverhill@usc.edu

Separate applications must be submitted for each technology.

Faculty Name:	
Class:	
Year:	
Semester:	
Description of use:	
Type of use:	3D Print Powder 3D Print ABS 3D Print Polyjet CNC Router
# of Students:	
Amount: rough size	ie. 2” x 2” x 2” or 5 cubic inches
Due Date:	
Estimated cost:	
Additional comments:	
Signature	I have read the Digital Fabrication Guidelines _____Date_____