

# CONSTRUCTION LAB

## Green 39

### Lab Overview

The Construction Lab is used for testing construction and siteworks materials and fabrication construction assembling. Materials include soil, concrete, masonry, metal, wood and plastic.

The lab is managed by the Construction Management program but is open to all students who complete safety and equipment training.

### Book Lab Time

**Hours:** By appointment during normal building hours.

**All students:** Contact Rick Larrabee at [rlarrabee@dunwoody.edu](mailto:rlarrabee@dunwoody.edu).

### Lab Tools\*

- Stationary and portable power tools, used primarily for wood and metal working
- Cyclone dust collector: Oneida Air Systems, 3 HP
- Air compressor: Rolair, 2 HP. 5.1 CFM @ 90 PSI, 20 gallon upright, portable
- Electrical generator: Power Stroke, 3500 Watts, gasoline-powered, portable
- Sliding compound miter saw: Dewalt, 10" blade
- Sliding compound miter saw: Dewalt, 12" blade
- Planer: Dewalt, 13" width
- Bandsaw: Laguna, 17" throat
- Drum sander: Performax, 20" width
- Drill press: Powermatic, 12"
- Jointer: Powermatic, 8"
- Table saw: Sawstop 10"
- Router table: Incra, Porter – Cable, 3 ¼ HP, ¼" and ½" Collets

# DIGITAL FABRICATION LAB

Red 67

## Lab Overview

The Digital Fabrication Lab—also referred to as the “FabLab”—is a hands-on laboratory that provides students with the necessary resources for material testing, prototyping, product design and development, visualization, and digital fabrication at all scales.

The lab is managed by the Architecture program but is open to all students.

## Book Lab Time

**Hours:** By appointment, after 1 pm, during normal building hours.

**All students:** Contact Stephen Knowles at [sknowles@dunwoody.edu](mailto:sknowles@dunwoody.edu) or Devyn Smoter at [smodevl@dunwoody.edu](mailto:smodevl@dunwoody.edu).

## Lab Equipment

- Stratasys 3-D printer

**Model:** Dimension uPrint

**Capacity:** 8 x 6 x 6 in (203 x 152 x 152 mm)

**Materials:** ABS

**Software:** Catalyst; see IT for installation

**More info/best practices:** [www.stratasys.com/resources/best-practices](http://www.stratasys.com/resources/best-practices)

- 2 Laser cutters

**Model:** Epilog Laser Mini

**Capacity:** 18 x 12 in, 30 watt

**Software:** Calypso; see manufacturer: [www.epiloglaser.com/](http://www.epiloglaser.com/)

**Model:** BOSS LS3650

**Capacity (engraving area):** 36 x 55in (910 x 1400 mm)

**Capacity (work area):** 44 x 70in + material pass thrus, 150 watt

**Software:** LaserWORKS; see manufacturer: [www.bosslaser.com/](http://www.bosslaser.com/)

- 3-axis CNC router

**Model:** CNC

**Capacity:** 4 x 8 ft.

**Software (G-Code generation):** MeshCAM or SheetCAM; available on FabLab computers

**Software (CNC control):** Mach 3; available on dedicated computer only

- Ridgid spindle/belt sander
- Scroll saw
- Drills
- Foam wire cutter (table top and hand held)
- Spray booth with utility sink

# DIGITAL FABRICATION LAB

Red 67

## Materials/Supplies and External Services

Fab Lab users are responsible for supplying their own materials and supplies for tasks completed at the lab. Small tasks may take advantage of surplus materials available, please ask before using. If you plan to have materials delivered, you must comply with the FabLab Materials Delivery Policy. Failure to follow the policy will result in refusal to accept materials.

## Prototyping and Fabrication Lab Policies & Safety Procedures

Students must be familiar with lab policies and safety procedures before use. These procedures are applied to all students and faculty seeking to utilize these facilities. If the project does not require your participation, you are only required to complete a safety induction.

### Policies & Procedures

Successfully managing health and safety in the lab relies on commitment, consultation, and co-operation. Everyone in the lab needs to understand the need for health and safety, what their role is in making the lab safer, and how they can fulfill their responsibilities and duties. Please follow the policies below:

- Everyone is required to provide and review Material Safety Data for applicable materials & projects.
- Projects that will require more than three days to complete must fill out a Project Ticket.
- Everyone must clean up their project area daily. This includes sweeping and removing left-over materials from the equipment and floor.
- Everyone is responsible for the purchase and delivery of their own materials. If you have materials being delivered, please coordinate this with the Faculty Advisor.
- Projects must be removed promptly upon completion of tasks.
- Review specific lab hazards, identify and assess the risks, control the risks, and report the hazard.

### Apparel

- All lab visitors must wear safety glasses and long pants at all times. Any shirt tails must also be tucked in.
- No open-toed footwear, including sandals, ballet flats, etc. may be worn in the lab. The entire foot must be covered.
- Loose clothing is not prohibited.
- Long hair must be tied back.
- Do not wear rings or metal watches when performing tasks.
- No loose items such as neckties, necklaces, etc.

# DIGITAL FABRICATION LAB

## Red 67

### Training

- No one will operate any piece of equipment without successfully demonstrating expertise to lab staff.

### Conduct

- All users must sign an agreement to obey lab rules before use of the lab is granted. Signing the agreement will be a concluding action demonstrating expertise. Please see the Faculty Advisor for this agreement.
- Rules for safety, neatness, and cleanliness are posted and must be obeyed by all persons in the lab at all times.
- Persons who do not follow posted rules and safety requirements will be given one formal warning. Subsequent transgressions will result in loss of all lab privileges.
- No one will operate any equipment without approval of lab's faculty advisor or student worker.
- No food or drinks are allowed in the lab.
- No audio devices, earbuds, iPods, etc. may be used while operating machinery.
- Users must attend machines at all times during operation.
- Remember to stop machines for adjustments, measuring, or cleaning.
- No rags or loose items are allowed near moving parts of machinery.
- Faculty advisor or student worker must be present before certain equipment can be used.
- Electrical power to certain equipment will be shut off when its staff are not in attendance.
- There must be at least one faculty advisor or student worker present before any lab equipment may be used.
- All users must clean up their individual work space and machinery before they leave. Remember to return tools and materials to their proper place and dispose of scrap.

### Accident Protocol

If an injury requires the attention of a medical professional or conveyance to an emergency facility or hospital, the injured party must be escorted by a faculty member. In such an instance, notification must be made to the injured person's designated family member or equivalent as soon as possible. Notification must also be provided to the appropriate department chair.

# ENGINEERING MATERIALS MECHANICS & METROLOGY (EM<sup>3</sup>) LAB

Black 65

## Lab Overview

The EM<sup>3</sup> Lab (Metrology Lab) is the flagship laboratory of the Robotics & Manufacturing Department. The lab houses equipment for additive manufacturing, material testing, measurement, and CNC simulation. Once per week, the lab is also home to Company Focus Fridays, where employers within the manufacturing industry talk to Dunwoody students and seek job applicants.

The lab is managed by the Robotics & Manufacturing Department and is open to all manufacturing students and/or those with training on the equipment.

## Book Lab Time

**Hours:** By appointment during normal building hours.

**All students:** Contact Alex Wong at [awong@dunwoody.edu](mailto:awong@dunwoody.edu). You will also need to check out the key from the tool crib.

## Lab Equipment

- Stratasys 3-D printers

**Model:** Fortus 250mc

**Capacity:** 10 x 10 x 10 in

**Materials:** ABS

**Software:** Control Center/Insight; see IT for installation

**Price (class projects):** free

**Price (personal projects):** ABS - \$5/cu in

**More info/best practices:** [www.stratasys.com/resources/best-practices](http://www.stratasys.com/resources/best-practices)

**Model:** Fortus 400mc

**Capacity:** 14 x 16 x 16 in

**Materials:** ABS, ASA, Nylon12, PC, PPSF, Ultem

**Software:** Control Center/Insight; see IT for installation

**Price (class projects):** free

**Price (personal projects):** ABS - \$5/cu in

**More info/best practices:** [www.stratasys.com/resources/best-practices](http://www.stratasys.com/resources/best-practices)

- Zeiss Duramax (Tactile CMM)

**Capacity:** 500 x 500 x 500 mm

**Software:** Calypso; available on Lab PC or see IT for installation

# ENGINEERING MATERIALS MECHANICS & METROLOGY (EM<sup>3</sup>) LAB

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## Lab Equipment, cont.

- Zeiss Stemi 305 Axiocam 105 Microscope  
**Software:** Zen; available on Lab PC only
- MTS Criterion 43  
**Capacity:** 10 kN (2.2 kips); tension/compression/shear  
**Software:** TW Elite, TW Essentials; available on Lab PC only
- Big Tester  
**Capacity:** 300 kN (67 kips); tension/compression/shear; weld certification testing
- 7 Haas simulators

# PHOTO LAB

Back room behind Print Services shop

## Lab Overview

Complete with three-point lighting and a photo booth, the Photo Lab is for students who want to take professional head shots and digital images of their work. The lab is managed by the Design Library, is free of charge, and is open to all students.

## Book Lab Time

**Hours:** By appointment during normal building hours.

**All students:** Contact Sarah Huber at [shuber@dunwoody.edu](mailto:shuber@dunwoody.edu).

## Lab Equipment

- Nikon D40 camera  
**Manual:** [http://cdn-10.nikon-cdn.com/pdf/manuals/noprint/D40\\_noprint.pdf](http://cdn-10.nikon-cdn.com/pdf/manuals/noprint/D40_noprint.pdf)
- Sony A350 camera  
**Manual:** [http://www.sony.jp/ichigan/manual\\_english/A350\\_manual.pdf](http://www.sony.jp/ichigan/manual_english/A350_manual.pdf)
- Three point lighting system  
**Model:** Lusana Studio 900W strobe flash light kit lighting set 3 x 300W LNG2600  
**More info:** [www.newegg.com/Product/Product.aspx?Item=9SIA5KR2D92376&Tpk=9SIA5KR2D92376](http://www.newegg.com/Product/Product.aspx?Item=9SIA5KR2D92376&Tpk=9SIA5KR2D92376)
- Light box

For additional lighting and camera directions, visit: [dunwoody.edu/library/design-library-services](http://dunwoody.edu/library/design-library-services).