

# VERTICAL LEARNING

## IN DETROIT, MICHIGAN

### CONCEPT

The reason for choosing Detroit for the design of this vertical learning facility was heavily influenced by its need for change as a result of its negative environmental impact in the United States. The goal for this project is to provide downtown Detroit with a shared space that focuses on implementing sustainable design in a wasteful community. The facility's interior utilizes materials, as well as furniture and equipment, that are sustainable and beneficial to the greater good of the environment. By utilizing sustainable resources in the design, the facility is capable of showcasing the durability and aesthetic appeal of these materials. The community is given the opportunity to come into direct contact with walls that are painted with zero VOC paint and countertops that are made up of recycled, natural elements.

The Vertical Learning Center is geared toward encouraging the community to take an active role in creating spaces that can aid in enhancing and perpetuating the continued functional existence of the city they live in. They are given the opportunity to not only voice their opinions in the pre-design phase, but to also participate in decisions that are made in the design development phase. With a more active role in the design, the community members are allowed an opportunity to understand and appreciate design students and their efforts at addressing the issues presented to them.

The goal is to maintain the traditional architectural integrity of the existing building, while introducing modern elements with a simple color palette, simple linear furniture and fixtures, and clean sight lines. Materials are chosen with sustainability in mind. The intent behind this decision is to provide the community with a full scale, completed model showcasing what sustainable design can produce visually and functionally. This type of environment also benefits the students because it allows them to practice alongside what they preach. The facility has a centralized restroom that implies circulation and helps divided the space into appropriate departments. The first floor is dedicated to the community and the second floor is dedicated to the students and faculty. Each floor is separated departmentalized but also allows for flexibility and the ability to adapt to any given instance.

### RESEARCH

#### DETROIT, MICHIGAN

In 2011, twenty-seven cities in the United States and Canada were analyzed on their environmental successes and failures. Out of these cities, Detroit was ranked the lowest, overall, in relation to its positive environmental impact. Though steps have been taken to improve the city's sustainability, as a whole, it still has a long way to go before it would be seen at the top of any environmental chart.

The following are a few of the findings from the study:

- "CO emissions per \$1 million of GDP total 2427 metric tons, well above the Index average of 296 metric tons" (Benfield).

- "Electricity consumption per unit of GDP is an estimated 1,029 gigajoules per \$1 million, compared with the Index average of 332 gigajoules, making Detroit's energy intensity the highest in the Index" (Benfield)

- "In terms of population density, Detroit has 6,600 people per square mile compared with the Index average of 8,100. Only 7% of Detroit's area comprises green space, compared with the Index average of 12%" (Benfield)

- "Detroit has only 0.8 buildings per 100,000 people certified by Leadership in Energy and Environmental Design (LEED), compared with the Index average of 6.4. Several state-level initiatives (see "green initiatives" below) offer city officials opportunities to consider similar programs and additional funding at the city level" (Benfield).

- "In the category of waste, Detroit ranks last in the Index. The city recycles almost none of its waste, a number estimated from state data, whereas the Index average for recycled waste is 26%" (Benfield).

Work Cited  
Benfield, Kaid. "The Greenest and Least Green Cities in the U.S. and Canada." <i>The Atlantic</i>. Atlantic Media Company, 05 July 2011. Web. 04 Dec. 2015.

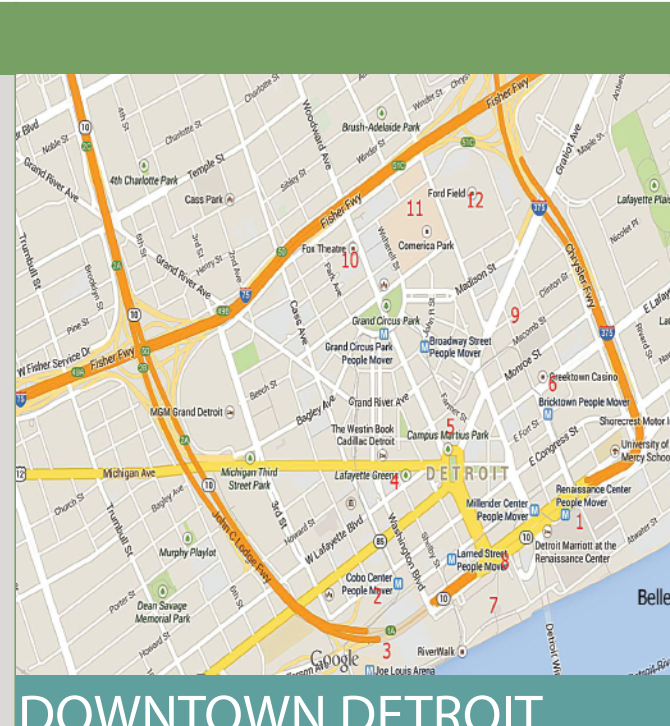


FIRST FLOOR: ENTRY

### SITE

The Vertical Learning Center is located in downtown Detroit, Michigan. This particular site was chosen with the intent to capitalize on its urban location and environment, which provides easy access for the community to visit and attend functions and meeting held at the Vertical Learning Center.

The Vertical Learning Center is in direct affiliation with the College for Creative Studies located in Wayne State University. The faculty and students will take an active role in educating the community about sustainable design by showcasing sustainable materials and design through the center itself.

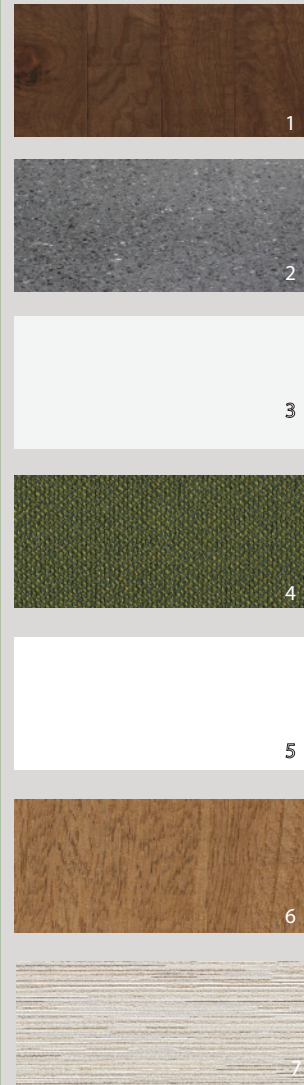


DOWNTOWN DETROIT



SECOND FLOOR: DESIGN STUDIO

## MATERIALS



- 1. Homestead by Armstrong**
  - Wood flooring predominately used
  - CO2 emissions reduction
  - Preservation of natural resources
- 2. Eco-Terr Slab by COVERINGSETC**
  - Used for flooring in bathroom, countertop surfaces, and wall treatment for the bathroom's exterior face and partition in the design studio
  - A green alternative to poured Terrazzo and made of recycled natural stone aggregates
  - Zero-VOC materials and a cleanable non-porous finish
  - Contains pre-consumer recycle content
- 3. Natura Ultra White by Benjamin Moore**
  - Applied to interior walls and ceiling
  - Zero VOC's
- 4. Adler by Designtex**
  - Upholstery for Cobi task chairs
  - The emissions from this product's shipment to the customer are offset as part of Designtex's ongoing investment in carbon reduction projects. Designtex supports new offset projects that reduce greenhouse gas emissions for years to come.
  - Consists of rapidly renewable resources
- 5. Deluxe White by Laminart**
  - Laminate applied to verticle and some horizontal surfaces of casegoods
  - GREENGUARD Indoor Air Quality Certified
  - Recycled Content
  - Regional Materials
- 6. Brown Annigie by Laminart**
  - Wood veneer applied to beams
  - post consumer materials are up to 40% recyclable through industrial recycling or energy recovering
  - The emissions from this product's shipment to the customer are offset as part of Designtex's ongoing investment in carbon reduction projects. Designtex supports new offset projects that reduce greenhouse gas emissions for years to come.
- 7. Gleam by Designtex**
  - Wood veneer applied to beams
  - 45% postconsumer recycled
  - The emissions from this product's shipment to the customer are offset as part of Designtex's ongoing investment in carbon reduction projects. Designtex supports new offset projects that reduce greenhouse gas emissions for years to come.

## FURNITURE

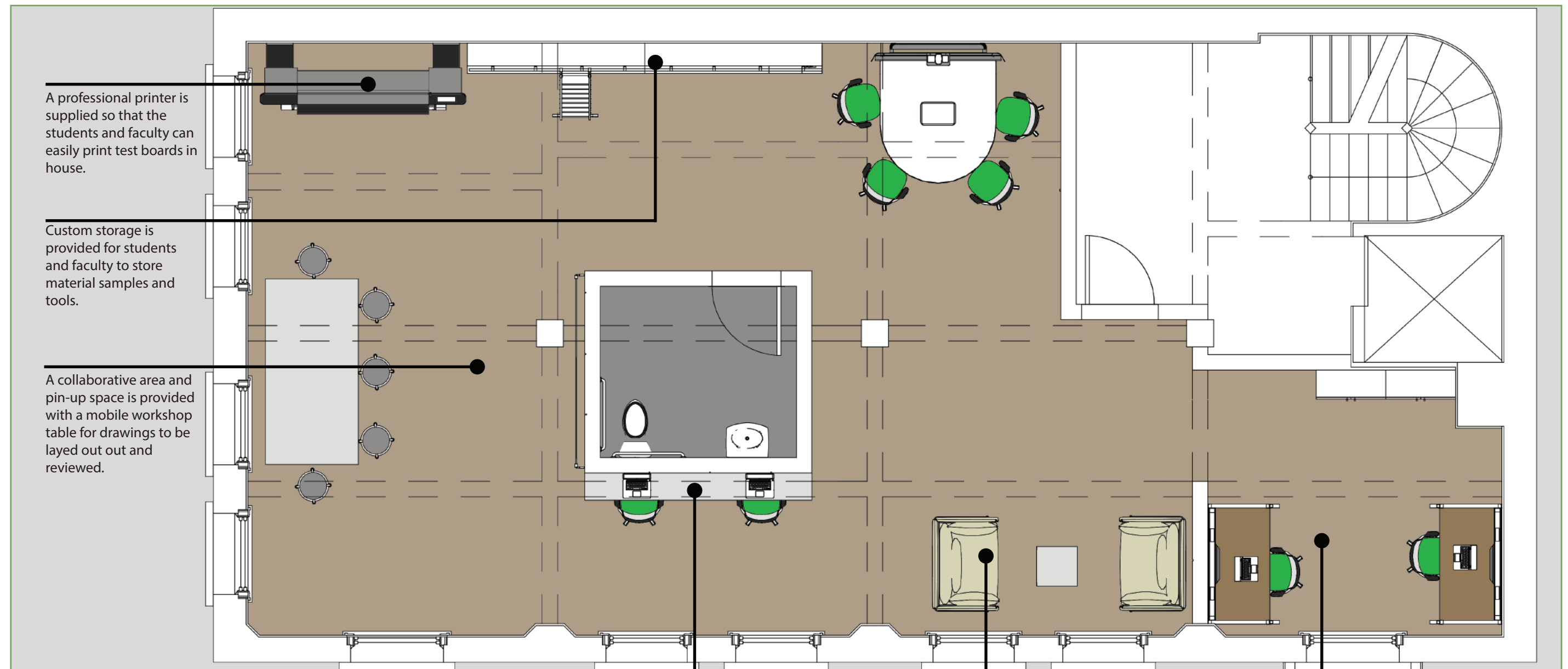


- 8. Cobi by Steelcase (Task Chair)**
  - SCS Indoor Advantage Gold certified for indoor air quality in North America
  - Level 3 certified to ANSI/BIFMA e3 standard
  - 90% recyclable
  - 16% recycled content
- 9. Node by Steelcase (Task Chair)**
  - Cradle to Cradle Certified
  - SCS Indoor Advantage Gold certified for indoor air quality in North America
  - Level 2 certified to ANSI/BIFMA e3 standard
  - Up to 99% recyclable
  - Up to 16% recycled content
- 10. Verge by Steelcase (Work Stool)**
  - SCS Indoor Advantage Gold certified for indoor air quality in North America
  - 88% recyclable
  - 25% recycled content
- 11. Bivi by Steelcase (Workstation)**
  - Recycled content
  - Regional materials
  - Low-Emitting materials
  - Sustainable purchasing
- 12. Bertioia by Knoll (Entry Seating)**
  - GREENGUARD Indoor Air Quality Certified
- 13. Alcove by Vitra (Lounge Seating)**
  - Up to 14% recycled material
  - Up to 54% recyclable
  - GREENGUARD Indoor Air Quality Certified

## TECHNOLOGY



- 14. Media:Scape by Steelcase**
  - SCS Indoor Advantage Gold certified for indoor air quality in North America
  - Level 1 certified to ANSI/BIFMA e3 standard
  - 77% recyclable
  - 45% recycled content
- 15. Surecolor P6000 Printer by EPSON**
  - Designed with the artist in mind to provide excellent visual quality
- 16. Spectrum Series by Elite Screens**
  - Durable and easy to clean
  - AcousticPro UHD : Flame Retardant : complies with NFPA 701 standards
  - Synchronous motor allows silent operation with extended operational longevity and low power consumption
  - GREENGUARD Gold certified
- 17. Powerlite Projector by EPSON**
  - Allows display from your iOS or Android mobile device with the free EPSON iProjection App and any nearby wireless EPSON projector
  - EPSON's Multi-PC Collaboration utility allows you to display four PC screens simultaneously over the network with even more users connected to the same projector on Standby Mode



## SECOND FLOOR: DESIGN STUDIO

A professional printer is supplied so that the students and faculty can easily print test boards in house.

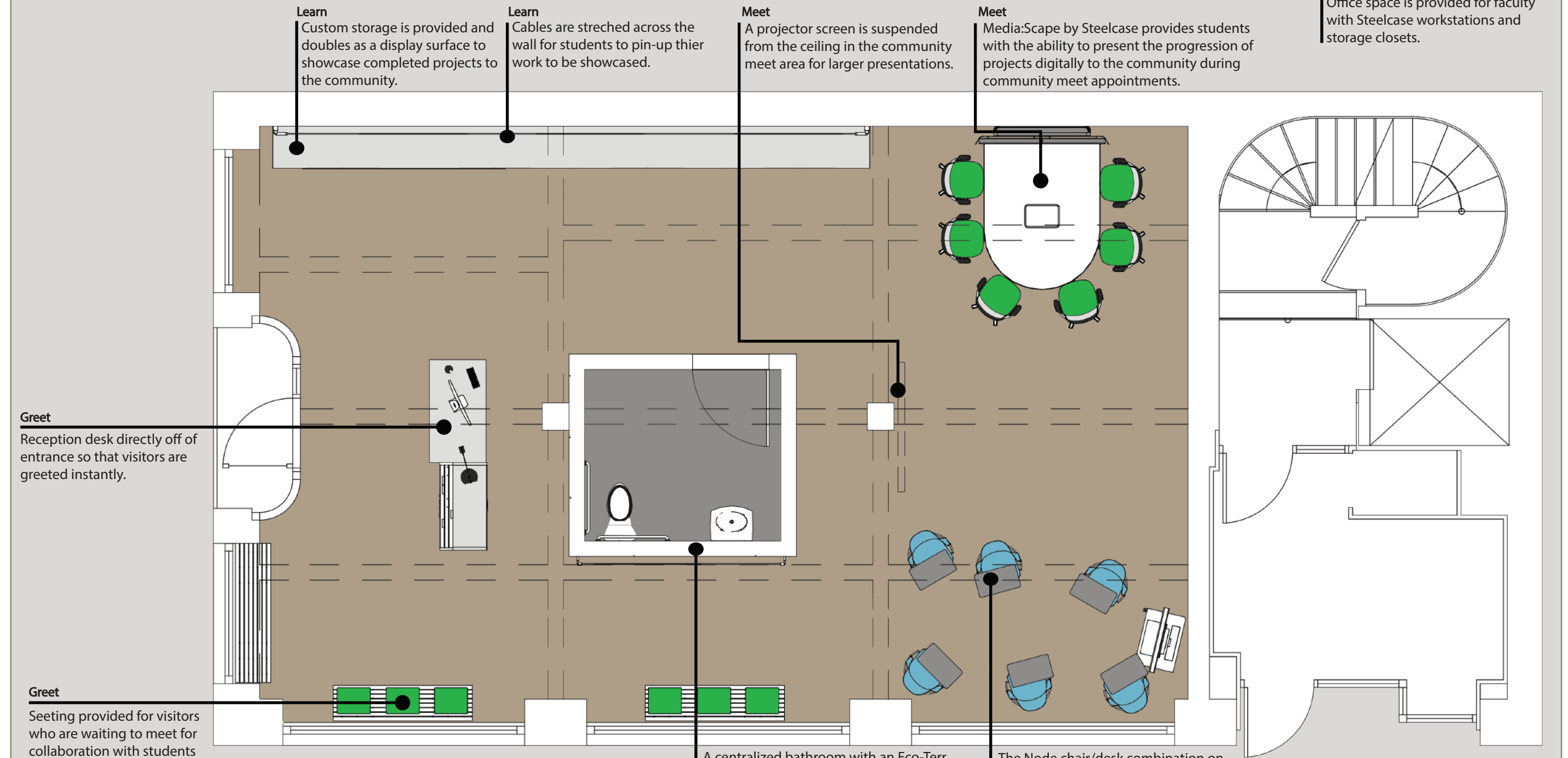
Custom storage is provided for students and faculty to store material samples and tools.

A collaborative area and pin-up space is provided with a mobile workshop table for drawings to be layed out out and reviewed.

An independent work area is provided in the design studio with plug-in capabilities for the student's technology.

A casual collaborative space is provided with high backed sofa for privacy.

Office space is provided for faculty with Steelcase workstations and storage closets.



## FIRST FLOOR: COMMUNITY CENTER

**Greet**  
Reception desk directly off of entrance so that visitors are greeted instantly.

**Greet**  
Seating provided for visitors who are waiting to meet for collaboration with students on design issues.

**Learn**  
Custom storage is provided and doubles as a display surface to showcase completed projects to the community.

**Learn**  
Cables are stretched across the wall for students to pin-up their work to be showcased.

**Meet**  
A projector screen is suspended from the ceiling in the community meet area for larger presentations.

**Meet**  
Media:Scape by Steelcase provides students with the ability to present the progression of projects digitally to the community during community meet appointments.

A centralized bathroom with an Eco-Terr finish on the walls and cove lighting around the base helps define spaces and acts as a focal point in the building.

The Node chair/desk combination on wheels allows the community meet area to be adaptive and functional.

