

Learning Lab Facilities



Operated by ALMMII
A Michigan-based 501c(3) Non-Profit

A cutting-edge training facility for advanced manufacturing and smart factory careers

A state-of-the-art interactive learning facility, located in the LIFT Manufacturing Innovation Institute, the LIFT Learning Lab spans 6,500 square feet, featuring seven unique labs equipped to prepare students for the most in-demand manufacturing careers.

The LIFT Learning Lab facility and equipment have been curated to showcase robotics and automation principles that underpin "smart factories," as well as expose students to materials science, metrology, and maker spaces for hands-on fabrication.

The LIFT Learning Lab features the latest models of industry-standard equipment-- no miniaturized or out-of-date models. Students will learn on the same equipment they will encounter in the workplace, reducing employers' need to provide additional training on the job.

Labs can be reserved individually or can be combined for a flexible learning experience for groups small and large.

A Smart Factory Twin Lab: Introduction for students and workers to robotics and smart factory principles/processes

B Fundamental Skills Lab: Equipment and curricula for introduction to advanced manufacturing skills in an industry R&D setting

C Flexible Learning Lab: Reconfigurable learning space to support a range of hands-on activities; overlooks the institute's high-bay floor for motivation and inspiration

D Virtual Learning Lab: State-of-the-art virtual and online learning systems and skills development activities

E ASM Materials Science and Project Fabrication Labs: Hands-on workspace to learn the properties of materials and practice fabricating projects and capstons.

F CNC Operations Training Center: A hands-on CNC training space, complete with mill and lathe, to address the critical skills gap in CNC operations and provide priority training to veterans.

G Welding Technician Training Center: A curriculum aligned to AWS national credentials combined with virtual and hands-on welding training equipment to address the critical skills gap in welding.

THE LIFT LEARNING LAB
1400 Rosa Parks Blvd
Detroit, MI 48216

LIFT Learning Lab Features- Mezzanine

The LIFT Learning Lab has been carefully curated to include state-of-the-art resources that will create an immersive learning environment. Each of these spaces are available, individually, or combined for use by LIFT's education and workforce development partners. Each space is described in more detail below:

Fundamental Skills Development Lab

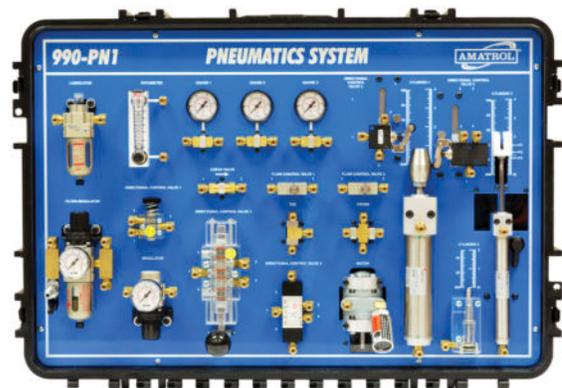


Capacity
25

The centerpiece of the LIFT Learning Lab, the Fundamental Skills Development Lab is outfitted with state-of-the-art Amatrol learning systems to teach advanced manufacturing skills in an industry research and development setting.

Equipment

- AC/DC Electrical Learning System
- Electric Relay Control Learning System
- Pneumatic Learning System
- Computer Aided Design Learning System
- CNC Machines Learning System
- Measurement Tools Learning System
- Skill Boss Smart Factory Automation System
- Skill Boss Hand Tools Package
- Robotics 1 Learning System
- Robotics 2 Learning System
- Electronic Sensors Learning System
- Machine Tools 1 Learning System
- CNC Machines 2 Learning System
- Materials Technology 1 Learning System
- Electrical Fabrication 1 Learning System
- Mechatronics Learning System
- Mechatronics Inventory Station
- Mechatronics Inspection Station
- Mechatronics Distribution Station
- Computer Aided Manufacturing 1 Learning System
- Plastics 1 Learning System
- Plastics 2 Learning System
- Mold Design Learning System
- Servo Robot Station Learning System
- Linear Traverse Axis
- PLC Troubleshooting Learning System
- Manual Machine Tools Learning System
- Mechatronics Smart Factory Ethernet Learning System
- Smart Factory Visual Communications Learning System
- Smart Factory RFID/Sensors Learning System
- Smart Factory Manufacturing Execution Learning System
- Smart Factory Barcode Learning System



Virtual Learning Lab



Capacity
16

The LIFT Virtual Learning Lab houses state-of-the-art operating stations and computer-based programming related to lightweighting and advanced manufacturing. This lab is equipped with stations complete with high-powered PCs and large HD monitors, and features access to innovative digital activities and learning modules to engage and immerse students in advanced manufacturing technologies.

Equipment

- High-powered desktop computers
- Projector
- Access to a portfolio of digital advanced manufacturing activities and STEM programming



Flexible Learning Space



Capacity
20

This space is designed to flex to the needs of the students and industry, with moveable partitions, white boards, and round tables to accommodate a variety of hands-on activities and learning modules. This space will feature industry-sponsored activities that educate Learning Lab visitors about LIFT member companies, their innovations, and career pathways.

Equipment

- 5 round tables (42")
- Mobile whiteboards



LIFT Learning Lab Features- Main Floor

Welding Technician Training Center



Capacity
12

Located in the LIFT High Bay among some of the most advanced welding equipment used in industry, the Welding Technician Training Center is can both train to industry standards and inspire the next generation of welders. The Center is flexible, with four cells, large enough to hold demonstrations (9' by 10'), and multi-process welding equipment suitable for entry level training and advanced training alike.

Equipment

- 2- Miller Delta Weld -350 (GMAW Pulse Process)
- 1- Miller Continuum (Advance GMAW Pulse process) – Push pull gun
- 1- Miller Dynasty 400 (Industrial GTAW/SMAW process – Aluminum and Steel)
- 1- Miller PipeWorx Welding System (SMAW/GMAW/GTAW) Pipe welding Fabrication
- Safety equipment (helmets, jackets, gloves, headbands, and safety glasses)
- Access to LIFT Machine Shop upon request

CNC Operations Training Center



Capacity
16

The CNC Operations Training Center features both a CNC Mill and Lathe outfitted to industry standards, ensuring that students training on the equipment are prepared for the machines they will encounter in industry.

Equipment

- Haas Vf1 CNC Mill
- Haas ST10 CNC Lathe
- Safety equipment (helmets, jackets, safety glasses)
- Access to LIFT Machine Shop upon request



ASM Materials Science & Project Fab Lab



Capacity
30

This dedicated materials science lab features lab benches and workspace, allowing students to seamlessly transition between lectures or presentations and hands-on learning. An adjoining project fabrication space is equipped with power and hand tools that can be used to build student designs and prototypes.

Equipment

- 15 Student Lab Tables (60" by 18")
- 1 Teacher Table
- 30 Lab Stools
- Storage Cabinets
- Mobile Projector/ Monitor
- 4 Workbenches and Stools
- 2 Horizontal Band Saws
- 2 Vertical Band Saws
- 18" Variable Speed Drill Press
- Bench Grinder
- Assorted Hand Tools



LIFT Training Room & Pricing

Training Room



Capacity
65

This flexible training space can serve as a classroom or breakout space and features modular furniture that can accommodate small and large groups alike.

Equipment

- 32 Tables (60" by 18")
- 65 Chairs
- Partitions
- 3 Ceiling Mounted Projectors
- Whiteboard wall
- Conference Phone



Pricing

Contact learninglab@almmii.org to reserve your space in the Learning Lab.

Learning Lab Space	Half Day	Full Day
Fundamental Skills Lab	For-Profit: \$550 Nonprofit: \$275	For-Profit: \$1,000 Nonprofit: \$500
Virtual Learning Lab	For Profit: \$500 Nonprofit: \$250	For Profit: \$900 Nonprofit: \$450
Flexible Learning Lab	For-Profit: \$200 Nonprofit: \$100	For-Profit: \$300 Nonprofit: \$150
Welding Technician Training Center	For Profit: \$750 Nonprofit: \$375	For Profit: \$1500 Nonprofit: \$750
CNC Operations Training Center	For-Profit: \$750 Nonprofit: \$375	For-Profit: \$1500 Nonprofit: \$750
ASM Materials Science & Project Fab Lab	For-Profit: \$550 Nonprofit: \$275	For-Profit: \$500 Nonprofit: \$250
Training Room	For Profit: \$750	For Profit: \$1,200
Smart Factory Twin Lab	Coming Soon	Coming Soon

About LIFT

LIFT is a 501c3 public-private partnership established in 2014 and created to develop and deploy advanced lightweight materials manufacturing technologies. LIFT is also known by its parent organization name: American Lightweight Materials Manufacturing Innovation Institute (ALMMII). From its inception, LIFT, its members and partners, have accepted as a critical part of the Institute's core mission the development of an educated and skilled workforce, competent and confident in deploying the new technologies and processes being developed across the nation.



Location

The LIFT Learning Lab is located in the center of Detroit's Corktown neighborhood- a growing manufacturing innovation hub.

1400 Rosa Parks Blvd.
Detroit, MI 48216

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