

Discovery Learning Laboratory Operations Policy

1. PURPOSE

This policy provides guidelines for the safe operation and use of the Discovery Learning Laboratory while serving the needs of the Marquette University engineering faculty members and students.

The purpose of this policy is to inform faculty members and students of what is required for use of the Discovery Learning Laboratory (DLL).

Students should schedule their project work carefully in order that they have the time and opportunity to receive the required training in order to complete projects during the times of DLL availability. Students shall be made aware that their use of the DLL is contingent upon strict compliance with the rules and procedures found in this policy.

2. BACKGROUND

The Discovery Learning Laboratory is different from University laboratories in the level of hazard presented by the shop equipment. The DLL is managed as a common resource. It is not under any one control of any department or professor.

The MU engineering program is design-focused and laboratory intensive. Many laboratory and design assignments across the curriculum are project-based requiring the construction of prototypes and/or apparatus such as test fixtures. In some cases the students are allowed to design on paper and with adequate sketches/drawings request fabrications by staff employed by the College of Engineering. In other assignments, the hands-on effort of fabrication is part of the learning experience desired by the professor. The student may require resources other than what is found in a dormitory room in order to complete an assigned project.

3. SUPERVISION

The DLL is under the general oversight of the Director of Operations and may be assisted by an Advisory Committee with a representative from each department. The purpose of this committee is to coordinate the operation of the Laboratory in a way that meets the overall needs of the MU College of Engineering.

The direct supervision of day-to-day operations is the responsibility of the Operations Engineer. The Engineer is assisted by the Lab Machinists and Shop Qualified Personnel in ensuring shop safety.

The shop personnel will be responsible for the maintenance and repair of the machine tools, cleanliness of the Laboratory, and shall make reasonable inspections to discover non-obvious conditions and take appropriate steps to make them safe.

4. OPERATION

The hours of operation of the DLL will be displayed prominently. These hours will be determined by the needs of the students and faculty, and the ability of the

College of Engineering to staff the DLL with Shop Qualified Personnel. In no case will the DLL be open for students use without proper supervision.

5. SHOP SAFETY GUIDELINES

The following general rules apply to operation of the DLL. Specific Guidelines will be updated and promulgated via a scheduled update.

1. Users of the DLL will wear appropriate safety gear.
2. Students will follow the two person rule.
3. Users will operate only that equipment for which they have been trained and have approval from a supervisor to use.
4. No tools, material, or equipment are to be removed from the DLL without a supervisor's approval. Tools will be returned in good condition.
5. ALL Users are expected to clean up.
6. Secure storage for projects will be made prior to any work commencement.
7. Users are expected to use caution around other work in progress to avoid injury to themselves or others and to avoid damage or loss of component parts.
8. Users will immediately report any injuries, safety violations, or dangerous conditions to a supervisor. An injury accident requires the person to notify Public Safety and to fill out an accident form.

6. TRAINING

The purpose of training is to familiarize students with the safe working of machinery and to provide adequate warnings of the potential hazards associated with each machine. The training program consists of two sequential levels.

Basic Training - This concerns safety around machines and expected behavior around personnel operating those machines. Basic Training is provided by a Laboratory supervisor. A review of shop safety may be periodically imposed on anyone within the shop.

Advanced Training - This training is tool specific. Before students are permitted to use any tool, they must be trained on that equipment. This training includes safe operation and basic operating instructions. Students needing this training will make appointments with the Operations Engineer or Lab Machinist. Students shall complete appropriate training early in the semester. On the job training will not be tolerated.

It should be noted that we will have students who are already competent with various tools. They will still need verification of their skills regardless.

Faculty members are required to plan projects carefully to allow students to receive the appropriate training before projects are due and to assist students in planning the manufacturing process so they know which power tool training they need.

7. DOCUMENTATION

Any qualification may be revoked at any time due to misuse or bad judgment.

A certificate of completion will be sent to each student completing Basic Shop Training.

Each student being trained will be required to sign an agreement certifying that they have read and understand the DLL lab safety policy and policy for the operation and use of the College of Engineering Discovery Learning Laboratory.

A master record of the training will also be kept on the student agreement form. The record will also be accessible to shop personnel for verifying certifications.

Certification is to be considered a GUIDE only. If in the opinion of the operating shop supervisor that a student is not capable of safely operating a machine, they may be denied the use of that machine. They may appeal to the Operations Engineer for relief if they feel the decision is unwarranted.

8. IMPLEMENTATION

This policy will be revised as needed to meet curricular objectives and in order to maintain the highest degree of safety for our students.

A copy of this policy shall be available in the DLL offices and posted on the website.

All accidents shall be reported to the Operations Engineer or Lab Machinist and the appropriate aid rendered. Common sense shall dictate the level of aid response.

9. ENFORCEMENT

This policy is necessary because of the risk of potential serious injury to students and shop personnel. Therefore- Students who fail to abide by the rules in this policy will be subject to academic discipline in the associated course, may lose the privileges of using the DLL, and may be subject to discipline through the College of Engineering.

Initiation of an Enforcement Action will be the responsibility of the Operations Engineer, Lab Machinists, and Shop Qualified Personnel. It is anticipated that there will be few if any required actions. Most people using the shop are aware of the inherent dangers involved in operating heavy machinery.

Should an Enforcement Action be questioned by a student, they may appeal the action via the College of Engineering chain of command. The College of Engineering Dean shall be the final arbiter of any disputed disciplinary actions. Appeals shall NOT be directly to the Dean of the College and MUST follow the following chain of command.

- 1) Operations Engineer
- 2) Operations Director
- 3) COE Executive Dean
- 4) COE Dean

10. STUDENT CONTRACT

The purpose of the Discovery Learning Laboratory (DLL) is for the development and manufacturing of materials and devices as needed for student projects and design. The Laboratory exists to support the education of the engineering student body and must always be used in a safe and orderly manner.

A contract which delineates these ideals shall be signed and kept by the DLL for the duration of the student's association with the College of Engineering. This contract shall be reviewed yearly and updated as necessary by the Operations Engineer and approved by the COE Director of Operations.