CRANE AND HOIST TRAINING INSTRUCTIONS

Training Procedures
Each department using cranes or hoists will appoint at least one designated trainer to train employees to operate them. The trainer must be a supervisor or other person that is knowledgeable in the operation of cranes, hoists and slings in their unit and is familiar with all safety principles applicable to their operation. Trainers for overhead or gantry (“Part 18”) cranes must have an Overhead and Gantry Crane Permit issued from EHS.

NOTE: Trainers for equipment other than overhead or gantry (“Part 18”) cranes, e.g., underhung cranes, monorail cranes or other cranes, hoists, slings or chain falls cranes do not need a permit for that equipment and should follow the training requirements noted in Appendix B, rather than the items noted in this Appendix.

Your department must have the written manufactures’ guide and/or training videos for the specific equipment in the department. The training process must be conducted before the employee is allowed to operate the equipment.

The training for overhead or gantry cranes must consist of:

1. Instruction such as a discussion (or written material) based on the MIOSHA standard and the specific equipment operation.
2. Review of the daily inspection checklist, which should also be posted in the workplace.
3. At the conclusion of the training, the employee(s) must be administered a written test to demonstrate the knowledge and ability of an employee before authorizing him or her to operate a crane.

* NOTE: Trainers can elect to use testing materials provided by the equipment manufacturer (preferred), or the written test included in this Appendix or the written test included in the training booklet “Indoor Cranes – Safe Lifting Operations” that accompanies the training video with the same title.

This video can be borrowed from EHS by calling 5-2140 or 7-2231 or logging onto the training portion of EHS’s website: https://weblogin.umich.edu/?cosign-maislinc&http://maislinc.umich.edu/ and entering “DVD0001” in the search box, then selecting “Register” in order to borrow the video.

4. After completion of the written exam, each employee must undergo a performance test to determine that the employee can operate the assigned crane or cranes through the functions necessary to perform the required task.

Include any other pertinent information you think is important. You may also contact EHS at 7-1142 with technical questions.

Recordkeeping
After the training, the employee operating an overhead or gantry crane will complete the physical qualification form and attach a copy of their valid State of Michigan driver’s license. (If the employee already has a Permitted Equipment Operator’s license, he/she does not need to submit a driver’s license.)

The designated trainer will send the physical qualification form and copy of driver’s license to EHS along with the written and performance test. EHS will evaluate the packet and issue a permit or contact the department for missing/additional requirements. Training and permitting information will be maintained at EHS and the department can keep written documentation of the name of the trainee, dates of the training, and the equipment trained on, if they wish.

Renewal Permits
Overhead or gantry permits must be renewed every three years, by filling out the Renewal Evaluation of Operator Performance for Overhead/Gantry Crane Operators (Appendix C) and reminders will be sent by EHS. Contact the University Medical Surveillance Coordinator at 615-2140 for additional information.

Refresher Training
Refresher training for any type of crane or hoist is required of the operator only **IF** the operator is observed or reported.

**Refresher Training**
Refresher training for any type of crane or hoist is required of the operator only **IF** the operator is observed or reported:
- performing unsafe operation,
- involved in an accident or near-miss incident,
- evaluation indicates need,
- different type of equipment is introduced, or
- workplace conditions change.

**Permits**
**Overhead** or **gantry** crane operators must carry the permit with them at all times when operating this equipment. Tracking of physical qualifications will be the responsibility of EHS.

**Crane and Hoist Equipment Maintenance and Testing**
The University will only purchase crane and hoist equipment that meets the specifications listed in MIOSHA Safety Standards, [Part 18](#) and [Part 20](#). EHS will conduct inspections for all powered hoists and cranes on campus unless a department elects to have their own formal inspection program.

It is the responsibility of each department to assure their cranes and hoists are in proper working order and to follow manufacturers’ specifications with respect to inspection and maintenance.

*Administrative questions pertaining to the tracking system and issuance of overhead or gantry crane permits may be directed to Donna Capron (5-2140) or by e-mail at dcapron@umich.edu.*

*Technical questions regarding this program may be addressed to EHS at (7-1142).*
Physical Qualification Form
Overhead and Gantry Crane Operators

Operator’s Name: ___________________________ ID #: ___________________________

Print Name

Specific Equipment: ___________________________ Equipment Location: ___________________________

I have a valid Permitted Equipment Operator’s License: expiration date: ___________________________
If you have a valid University of Michigan Permitted Equipment Operator’s License, skip to signature and date.

I have a valid DOT medical card issued by U-M Occupational Health Services: expiration date ___________________________
If you have a valid DOT medical card, skip to signature and date, no driver’s license copy needed.

I certify that I meet the following minimum physical qualifications for operating permitted equipment.

( Check Yes or No for each question below. )

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I will report any impairment of these physical qualifications immediately to my supervisor.

Operator Signature: ___________________________ Date: ___________________________

Please attach a copy of your valid Michigan driver’s license and return with tests to:
Attn.: Donna Capron, EHS, 1239 Kipke Drive, CSSB, 48109-1010 or FAX: 734-647-4768

For Office Use Only

<table>
<thead>
<tr>
<th>Permit Check list:</th>
<th>Physical Qualification Form</th>
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<td>_ Written Test</td>
<td>_ Valid (readable) Michigan driver’s license</td>
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<tr>
<td>_ Performance Test</td>
<td>_ Permit Restrictions:</td>
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</table>
| _ Renewal Evaluation Form | _ Permit Exp.: ___________________________
| _ Permit Sent: ___________________________ | |
| _ Permit entered in database | |
CRANE & HOIST WRITTEN TEST
OVERHEAD AND GANTRY CRANES
(mandatory)

Employee Name: ___________________________

Department: _______________________________

Equipment Specification (manufacturer, type & load): _________________________________________

Location of Equipment: _________________________________________________________________

1) A trained operator may lift a load at three (3) times the rated capacity of the crane.
   a) True
   b) False

2) What should an operator do when given the emergency stop signal by another worker?
   ____________________________________________

3) It is OK to work under a suspended load as long as the operator is there.
   a) True
   b) False

4) Use the limit switch to stop the hoist motion.
   a) True
   b) False

5) It is OK for the load to contact an obstacle.
   a) True
   b) False

6) When should an inspection of the crane and pendant control be conducted?
   a) Before each day’s use of the equipment
   b) Weekly
   c) Monthly

7) Do not operate the hoist if the rope is not seated in drum or sheave grooves.
   a) True
   b) False

8) What should you consider before planning for a lift?
   a) The crane’s load capacity
   b) Potential hazards in the area
   c) Personnel who are in the area
   d) Where you plan to set the load
   e) All of the above
9) A lift can be made with a kinked or twisted rope.
   a) True
   b) False

10) If the crane fails the inspection, you should …
    a) Use caution when operating the crane
    b) Not use the crane until corrections or repairs are made
    c) Make a note of it before using the crane

11) When moving a load, you should …
    a) Keep both hands on the pendant control
    b) Avoid swinging the load
    c) Face the load
    d) All of the above
    e) Only B and C

12) When setting a load, you should …
    a) Place the bridge and trolley to the left of where you will set the load
    b) Swing the load into place
    c) Quickly set the load down
    d) Lower the hook so the sling can be easily removed from the hook.

13) Tying knots in a sling can increase its capacity.
    a) True
    b) False

14) As a crane operator, you are responsible for your safety and your co-workers.
    a) True
    b) False
Answer Key:

1. False
2. Stop the movement
3. False
4. False (use the controls to stop the hoist, the limit switch is a safety stop)
5. False
6. A
7. True
8. E
9. False
10. B
11. D
12. D
13. B
14. A
EMPLOYEE PERFORMANCE TEST
OVERHEAD AND GANTRY CRANES
(mandatory)

Employee: ________________________________________  Date: ____________________

Trainer: ___________________________________________

Equipment used during the test: ________________________________________________________

Instructions to Trainer:
Demonstrate how to do a daily inspection. Have a load reading for lifting and demonstrate how to properly lift the load and move it to another location. Then have the employee take the controls and perform a daily inspection and lift the load in the same manner as demonstrated.

Rate the employee on how well he/she performs the crane inspection and operates the crane in lifting and moving the load:

E – excellent – no mistakes were made
G – good – only minor mistakes were made, or employee recognized and corrected on own
F – fail – employee made serious mistakes that could result in injury

Categories to observe and rate: Rating

Section I – Crane Inspection
Ability to identify items inspected and to explain what they are looking for ............ _______

Section II – Basic Control Skills
Ability to use controls accurately.......................................................... _______
Lifting and handling load properly and accurately .............................................. _______
Operating in a safe manner, aware of people and obstacles............................... _______

Overall Performance rating: ................................................................. _______

Signature of Trainer: _____________________________________________