

Indigenous Heavy Equipment Pre-Apprenticeship Training Program (11 weeks + 8 Week Work Placement)

The International Union of Operating Engineers, Local 793 see the Indigenous population as a sustainable solution to help meet the growing demand for qualified crane, heavy equipment, and concrete pump operators in Ontario. One of the goals of Local 793's Indigenous Engagement Strategy is to provide training opportunities to Indigenous people who show the dedication and commitment necessary to build successful careers as heavy equipment operators. The Operating Engineers Training Institute of Ontario (OETIO), in cooperation with the Ministry of Labour, Training and Skills Development developed the Indigenous Pre-Apprenticeship Program for this sole purpose. 2020 will mark the fifth year for the Program which will see twelve Indigenous people recruited from various districts across Ontario.

Trade Entrance Exam Preparation Course (3 weeks – 120 hours)

This three week course is designed to prepare candidates to successfully pass the trade entrance exam.

Upon completion of the trade entrance exam preparation course the participant will need to successfully pass the trade entrance exam with 70% or higher to proceed to the next level, which is the pre-apprenticeship program.

Topics:

Test Taking Strategies

- Multiple choice strategies
- Multiple choice practice

Reading

- Extracting information
- Summarizing main points
- Drawing inferences

Trade Math

- Basic calculations
- Metric to imperial conversions
- Geometry
- Percentages
- Ratios
- Reading graphs and charts

Trade Science

- Properties of gases, water, sound, minerals
- Principles of combustion, buoyancy, density, pH, electricity and magnetism
- Effects of heat on water, gases, metals
- Basic hydraulics
- Basic action of valves

Mechanical Aptitude and Space Relations

- Tools and instruments
- Mechanical action of gears, levers, pulleys, screws, and turbines
- Spatial relations



Heavy Equipment Pre-Apprenticeship Theory (3 weeks – 120 hours):

The Fundamentals of Heavy Equipment is a pre-requisite to the operator training program and provides participants with the fundamentals of OHS Reg. 213/91, safety, equipment types and components, operating techniques, transportation, and maintenance that apply to heavy equipment in the construction industry.

The participant also learns essential skills including numeracy, document and computer use which includes resume writing and a job search workshop.

Participants also complete training in Working at Heights – Fundamentals of Fall Prevention, WHMIS, First Aid and CPR, Ground Disturbance, Pipeline Construction Safety Training, Basic Construction Safety Training, Propane in Construction, Traffic Control, Rigging and Vertical Mast and Telescopic Boom Forklift.

Heavy Equipment Pre-Apprenticeship Trade Readiness Practical Training (5 weeks – 200 hours):

Participants will learn how to operate 3 different machines:

- Sheep's foot and smooth drum compactors
- Skid steer loader (front end loader skills)
- Compact excavator with leveling blade (packer/bulldozer/ TLB/excavator skills)

Perform pre-operational inspections

Comply with scheduled maintenance requirements

Plan work procedures

Comply with grades and stakes

Operation of machines, including:

- traveling and maneuvering machines
- preparing a level surface with the loader
- building and maintaining a working table
- digging and backfilling trenches
- preparing a work surface up to three machines wide
- digging an excavation with spoil pile on both sides
- moving material from a stockpile to another location
- grading and compacting rough areas
- preparing machine to be left for an extended period of time

Operate the Heavy Equipment mechanical mini simulators (operating control skills)

As well, students are able to access the simulation lab after hours and on weekends. An after-hours simulation exercise book is available to advance student's skillsets.



Haul Truck Practical Training:

Each field exercise includes an instructor led demonstration, followed by a participant practice session with ongoing coaching, skills evaluation and feedback from the instructor via two-way radio. Haul trucks may be equipped with automatic or standard transmissions and be articulating or non-articulating.

Participants are trained on the following learning objectives:

- Pre-operational inspections
- Planning work procedures
- Optimizing equipment capabilities
- Maneuvering and off-road travel
- Monitoring the activities of people, vehicles and other equipment in the area
- Positioning for loading/unloading
- Proper shutdown procedures
- Compliance with scheduled maintenance requirements



Indigenous Pre-Apprenticeship Training Program selection process:

In Ontario, the 15 IUOE Local 793 area offices play a key role in the selection process of meeting with industry and owner/client representatives to identify, interview, and select pre-apprenticeship candidates. These candidates are then referred to our Assistant Director of Training and Apprenticeship to ensure the recommended candidates meet the pre-apprenticeship program requirements.

Indigenous Pre-Apprenticeship Training Program Work Placement:

Each student is placed on an eight week paid work placement with a Local 793 contractor. This places participants in the construction industry to gain exposure to a workplace and allow them to determine whether the heavy equipment trade is suitable as a career. The employers will have the opportunity to evaluate and provide valuable, timely feedback on the student's abilities, attitude, and willingness to learn. A member of our Marketing Department calls and monitors the pre-apprentices during their work placement. If any issues arise between the employer and the pre-apprentice, our Director of Training and Apprenticeship may need to become involved to resolve the matter.



Course Location:

OETIO Morrisburg Campus

Indigenous Pre-Apprenticeship Training Program Pre-requisites:

- Achieving a Trade Entrance Exam mark of 70% or higher after completing the 3 week Trade Entrance Exam Preparation Course
- Resume
- Grade 12 transcript/diploma or equivalent
- Current driver's abstract
- SIN Card

Elearning courses:

- Health and Safety for Workers (Ministry of Labour)
- WHMIS (approx. 2 hours)
- Working at Heights – Fundamentals of Fall Prevention
- Ground Disturbance (approx. 4 hours)
- Pipeline Construction Safety Training (approx. 4 hours)
- Union education (approx. 2 hours)
- Basic Construction Safety Training (3 hours)
- Rigging (4 hours)
- Traffic Control (3 hours)
- Vertical Mast and Telescopic Boom Forklift Operator – theory portion (approx. 2 hours)

Total course duration:

11 weeks + 8 Week Work Placement

Participant/Instructor Ratio:

- Theory - 12 participants to 1 instructor
- Practical – 6 participants to 1 instructor

Participant Seat Time:

Participant will always be operating one piece of heavy equipment on a rotational basis of 8 hours per day for practical training.

Evaluation:

- Trade Entrance Exam
- FHE Theory test: Mid and Final Test
- Numeracy Test
- Computer Test
- Practical evaluation. Participant must achieve 70% to pass

Certificates:

OETIO Certificate of Completion



Program cost breakdown:

There is no charge to participants in the Indigenous Pre-Apprenticeship Training Program. The program is sponsored by the Ministry of Labour, Training and Skills Development and the IUOE Local 793.

It will be the responsibility of the Pre-Apprentice to arrange transportation to and from the OETIO Campus in Morrisburg.

Participants in the program will also be required to bring their own CSA approved safety boots, safety glasses, work gloves and overalls/coveralls.

What is included:

- Books
- Exams
- Hard hat and safety vest
- Certificates

Fundamentals of Heavy Equipment

Heavy Equipment Pre-Apprenticeship Training Program

- Essential Skills training
- Trade Readiness Practical Field Training
- Propane in Construction
- Traffic Control
- WHMIS
- Rigging
- Working at Heights - Fundamentals of Fall Prevention
- First Aid & CPR
- Vertical Mast and Telescopic Boom Forklift
- Ground Disturbance Training
- Pipeline Construction Safety Training

***Note:** Participants returning to be trained for heavy equipment apprenticeship practical training are exempt from Fundamentals of Heavy Equipment (2 weeks – 80 hours)