



Northland Pioneer College

INDUSTRIAL TECHNOLOGY TRADES



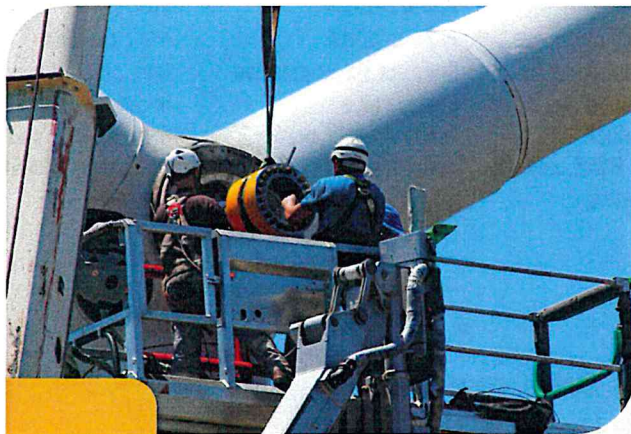
HIGH DEMAND CAREERS IN:

Electrical &
Instrumentation

Mechanical Maintenance

Heating, Ventilation &
Air Conditioning

Power & Alternative
Energy



FOR MORE INFORMATION:

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INDUSTRIAL TECHNOLOGY TRADES

Program Overview

NPC's ITT program trains students for careers as technicians, operators, and maintenance workers in energy production and industrial environments. The curriculum covers mechanical, electrical, pneumatic, hydraulic, thermal, and control systems to give students a broad understanding of industrial systems. Hands-on labs are based at the Technology Center on NPC's Show Low White Mountain Campus.

Career Opportunities

Graduates can pursue entry-level roles in:

- Energy operations (gas, coal, nuclear, solar, wind, geothermal, hydroelectric, methane/landfill gas)
- Standby power/battery technology
- HVAC installation and repair
- Industrial equipment testing, inspection, repair, and troubleshooting
- Assembly, production, and maintenance

Job Outlook

- Strong employment opportunities as older workers retire and industries adopt automation.
- Growing demand for industrial electricians, instrument technicians, machinery mechanics, operators, and HVAC technicians.
- NPC graduates are positioned to adapt to rapidly changing technologies in manufacturing, distribution, and energy production.

Specializations

Students may choose one of five pathways:

- Electrical & Instrumentation – High-voltage systems, measuring/recording devices, and manufacturing equipment.
- HVAC – Heating, cooling, refrigeration, hydronics, troubleshooting, and system repair.
- General ITT – Broad foundation in power generation, electrical, mechanical, and HVAC basics.
- Power & Alternative Energy – Plant operations, safety, instrumentation, turbines, water treatment, solar/wind, and pollution control.
- Mechanical Maintenance – Pumps, valves, steam systems, conveyors, laser alignment, and testing procedures.

Certificates of Proficiency (CP) • 24–28 credits

Electrical & Instrumentation

• 28 credits

Progression from fundamentals to advanced electrical and instrumentation (I–VI), covering systems, controls, and industrial applications.

HVAC

• 28 credits

Eight levels of HVAC courses, from basic installation and repair through advanced systems, troubleshooting, and maintenance.

Industrial Technology Trades – General

• 24 credits

Broad-based foundation including craft skills, safety, electrical, mechanical, HVAC, and alternative energy.

Mechanical Maintenance

• 28 credits

Series of six progressive courses plus fundamentals, covering maintenance of industrial machinery and systems.

Power & Alternative Energy

• 27 credits

Core skills plus coursework in safety, alternative energy, solar, and wind turbine maintenance.

Certificate of Applied Science (CAS) • 30–34 credits

The CAS builds on the CP in each specialization by adding 6 credits of general education.

AAS Degree Requirements Industrial Technology Trades (AAS) • 60 credits

The AAS in Industrial Technology Trades builds on a Certificate of Applied Science (CAS) in a chosen specialization plus general education, business courses, and electives. The degree equips graduates with versatile skills in industrial systems, preparing them for careers in energy, manufacturing, HVAC, and advanced machinery maintenance.