

CAREERS IN NUCLEAR

A GUIDE TO IN-DEMAND NUCLEAR ROLES
AND NUCLEAR UPSKILLING



Canadian Nuclear Association (CNA)

The Canadian Nuclear Association (CNA) has been the national voice of the Canadian nuclear industry since 1960. Working with our members and all communities of interest, the CNA promotes the industry nationally and internationally, works with governments on policies affecting the sector, and endeavours to increase awareness and understanding of the value nuclear technology brings to the environment, the economy, and the daily lives of Canadians.

The CNA has over 200 members, representing more than 89,000 Canadians employed in uranium exploration and mining, electricity generation, nuclear medicine, and promoting Canada's worldwide leadership in nuclear science and technology innovation.

- For more information on demand projections for the nuclear workforce, please visit www.cna.ca/resources
- To connect with the CNA policy team, please email cnapolicy@cna.ca
- For more information on the CNA, visit www.cna.ca or email info@cna.ca

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Introduction

Canada is on the verge of a major nuclear energy expansion with 22.3 GW of new nuclear projects planned across Ontario, Saskatchewan, New Brunswick, and Alberta. With the release of a dedicated Nuclear Energy Strategy, the federal government has signalled that momentum to launch nuclear projects will only continue to grow.

These projects, combined with the anticipated retirement of around 25% of the current nuclear workforce by 2030–2035, mean the sector will need tens of thousands of new workers in the coming decades. According to the Canadian Nuclear Association's (CNA) *Projecting the Future Canadian Nuclear Workforce: 2026 Data Report*, the greatest demand will fall on skilled trades and specialized engineering roles, but many professionals will be needed across the sector, from mining and fuel production to construction, operations, and decommissioning. The nuclear industry is a promising, high-paying sector seeking to grow its workforce, with multiple entry points for people from all walks of life.

The Purpose of this Booklet

This booklet is a starting point for building awareness that jobs in the nuclear industry span a wide range of educational backgrounds and interests. It explores the top 25 in-demand nuclear occupations identified by the CNA, what each role involves, the required education and training pathways, and how job seekers can prepare for a career in Canada's nuclear future.

If you are a job seeker, you can use this guide to identify roles that match your interests and strengths, and consider reaching out to a relevant university, college, union, or apprenticeship program to learn more. Many of these careers don't require a four-year degree; some start with a high school diploma and on-the-job training.

If you are a parent or guardian, share these pathways with the young people in your life. A conversation about options can open doors that many may not have considered.

If you are an educator or guidance counsellor, bring these job profiles into classroom discussions, career fairs, and STEM programming. Consider connecting with local nuclear employers to arrange site visits or guest speakers.

If you are an employer or industry partner, use this booklet to support outreach efforts, mentorship programs, and partnerships with schools and training institutions in your region.

TEERS: How Jobs Are Classified in Canada

The Canadian government uses a framework called **TEERs** to group jobs into six categories (0–5) based on the **t**rainning, **e**ducation, **e**xperience, and **r**esponsibilities required for each. This booklet uses the TEER categories to divide the top 25 in-demand jobs into chapters based on their qualifications.



TEER 0

Management occupations.



TEER 1

Occupations that usually require a university degree.



TEER 2

Occupations that usually require a college diploma and 2+ years of training in an apprenticeship.



TEER 3

Occupations that usually require a college diploma and
a) 2 years or less of training in an apprenticeship, or
b) under 6 months of training on the job.



TEER 4

Occupations that usually require a high school diploma, or several months of training on the job.



TEER 5

Occupations that usually require short-term work demonstration and no formal education.

TEER 0 MANAGEMENT

TEER 0 occupations consist of management positions within an organization. The qualifications for these jobs typically require extensive expertise and work experience in a particular field.

ENGINEERING MANAGER

Engineering managers are responsible for managing the engineering department of an organization. These responsibilities include strategic decision-making, supervising projects, and communicating with stakeholders.

Job Duties

- Technical oversight to ensure the project adheres to regulatory standards and decisions have credibility towards the successful execution of the design
- Consult and negotiate with stakeholders on the delivery of projects, including judgment on resource allocation and timelines
- Perform managerial duties such as scheduling, training and hiring

Qualifications

- Bachelor's degree in engineering
- P.Eng. engineering certificate; this license varies across provinces and requires 4 years of work experience to apply
- Extensive experience in engineering and supervising

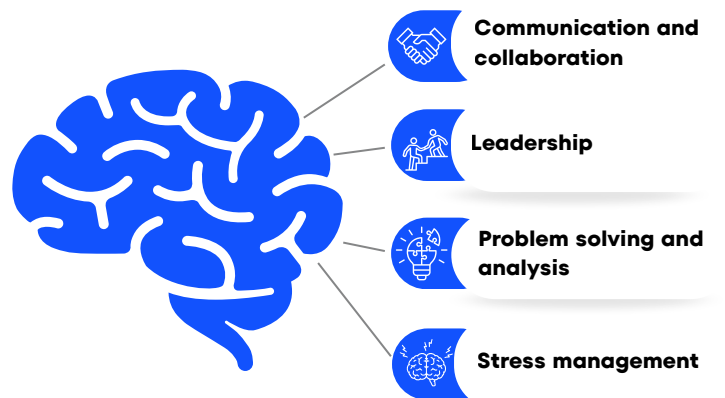


Examples of Job Titles

- Director of engineering research and development
- Nuclear engineering manager
- Production engineering manager

Nuclear Industry Upskilling

- Training in the regulatory and safety cultures that govern nuclear facilities
- Typically requires experience in oversight of a project within a highly regulated environment



CONSTRUCTION MANAGER

Construction managers plan, coordinate, and oversee a construction project from start to finish.

Job Duties

- Manage the budget and schedule
- Hire and supervise contractors and subcontractors, ensuring the work meets safety and building codes
- Act as the main point of contact between the client, architects, engineers, and the crews doing the work on site

Qualifications

- A bachelor's degree in construction management, civil engineering, architecture, or a related field and/or a college diploma in construction technology
- At least 7 years of prior experience in construction
- Certifications may include Certified Construction Manager (CCM), Project Management Professional (PMP), and OSHA Safety Certification
- A master's degree in project management or a P. Eng may be required

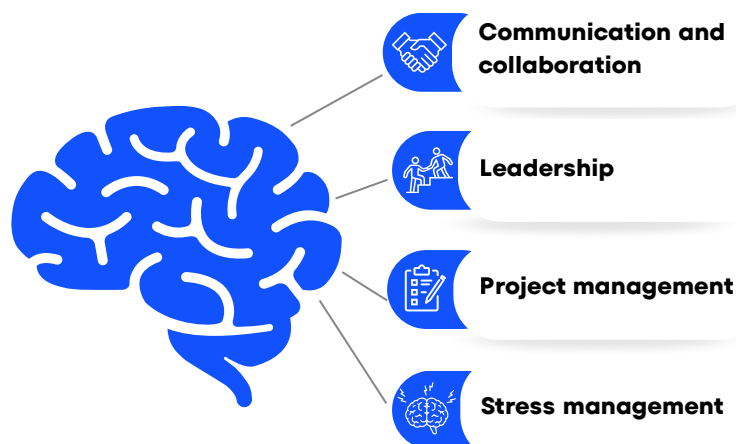


Examples of Job Titles

- Nuclear construction project manager
- Industrial construction manager
- Site Manager

Nuclear Industry Upskilling

- Training in the regulatory and safety cultures that govern nuclear facilities.
- Typically requires experience in oversight of a project within a highly regulated environment



FACILITY OPERATION AND MAINTENANCE MANAGER

Facility operation and maintenance managers are responsible for planning, organizing, and evaluating the ongoing operations of nuclear facilities.

Job Duties

- Oversee the administrative services of a facility, which include cleaning, parking, safety inspections, security, etc.
- Supervise the installation, maintenance, and repair of nuclear facility equipment
- Ensure there are schedules and procedures in place for the safety of the nuclear facility in compliance with the regulatory framework
- Hire and supervise staff

Qualifications

- College or university degree in a business-related discipline, or have training in administration and maintenance.
- College or university degree in electrical or mechanical engineering or related discipline may also be required.
- Requires several years of supervising experience in facility and maintenance operations.

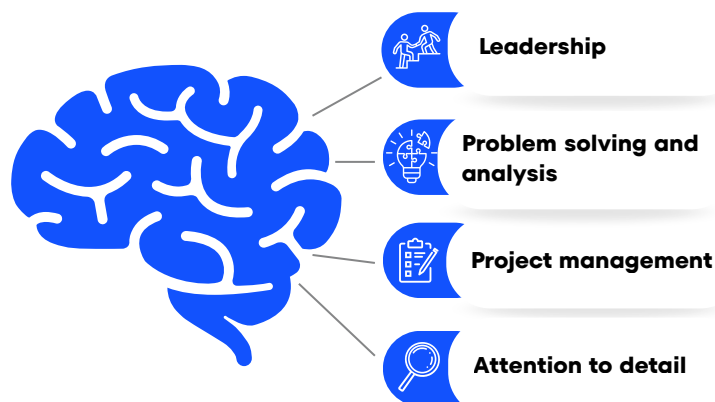


Examples of Job Titles

- Facilities maintenance head
- Plant maintenance superintendent
- Manager, nuclear quality assurance

Nuclear Industry Upskilling

- Training in the regulatory and safety cultures that govern nuclear facilities
- May require CNSC Personnel Certification, requiring successful completion of evaluated training, a management interview, and a CNSC exam



TEER 1

UNIVERSITY QUALIFICATION

TEER 1 occupations primarily consist of jobs that require a university degree, including a bachelor's, master's or doctorate.

Professions in this TEER are expected to be in high demand as they are set to experience the second-largest workforce gap among all the TEERs.

MECHANICAL ENGINEER

Mechanical engineers design, analyze, and maintain mechanical systems and components for nuclear power plants. Those working in nuclear specialize in thermodynamics and heat transfer. They ensure these systems adhere to safety requirements and operational needs.



Job Duties

- Design and analyze mechanical systems in nuclear plants to promote efficiency and safety
- Ensure components qualify for the requisite standards and criteria imposed by the regulatory framework, such as proving reliability under a variety of stress tests
- Use of CAD software to create engineering plans
- Support planned maintenance outages and refuelling shutdowns
- Contribute to major projects like steam generator replacement, fuel channel/feeder replacement, or new build/SMR construction

Qualifications

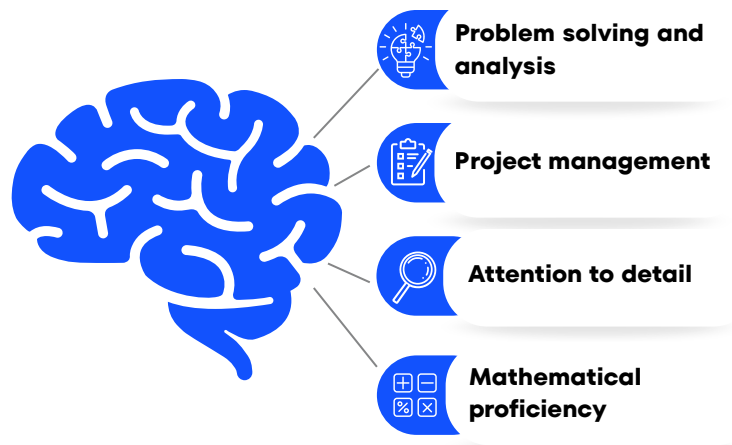
- Bachelor's degree in mechanical engineering or a related field
- P.Eng. engineering certificate; this license varies across provinces and requires 4 years of work experience to apply

Examples of Job Titles

- Thermal design engineer
- Mechanical nuclear technical lead
- Engineer fluid mechanics engineer

Nuclear Industry Upskilling

- Training in the regulatory and safety cultures that govern nuclear facilities



CIVIL ENGINEER

Civil engineers in the nuclear industry design, analyze, and inspect the structural elements of a nuclear facility (such as containment buildings, safety-related concrete structures, foundations, etc) while supporting construction, refurbishment, and licensing activities tied to those structures.



Job Duties

- Perform risk analysis on construction projects and propose solutions to address them
- Ensure that construction of structures adheres to the approved plans and meets safety standards
- Monitor environmental impacts by analyzing air, water, and soil quality while ensuring there are processes in place to rehabilitate sites once construction is complete

Qualifications

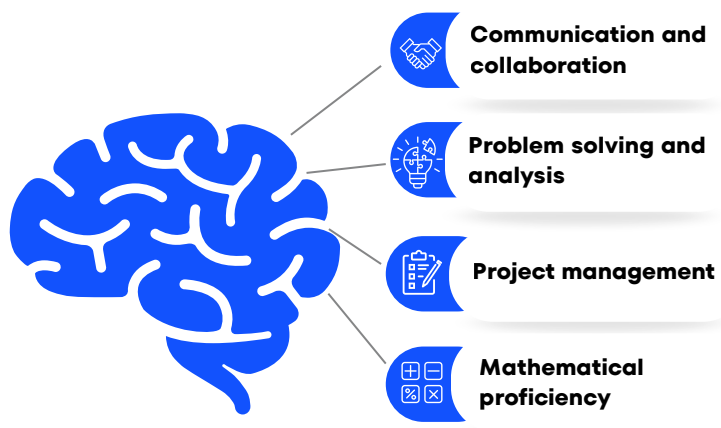
- A bachelor's degree in civil engineering or a related field
- P.Eng. engineering certificate; this license varies across provinces and requires 4 years of work experience to apply
- LEED certification may be required

Examples of Job Titles

- Geomatics engineer
- Structural engineer
- Surveying engineer

Nuclear Industry Upskilling

- Training in the regulatory and safety cultures that govern nuclear facilities



ELECTRICAL AND ELECTRONICS ENGINEER

Electrical engineers design, research, and evaluate electrical and electronic equipment in nuclear power plants. They are responsible for the safety, reliability, and efficiency of a plant's electrical infrastructure.

Job Duties

- Implement emergency response plans in case of electrical failures
- Responsible for the administration aspects of electronic systems by preparing material cost and time estimates
- Design electrical and electronic circuits, components, systems and equipment

Qualifications

- Bachelor's degree in electrical engineering or related field
- P.Eng. engineering certificate; this license varies across provinces and requires 4 years of work experience to apply
- LEED certification may be required

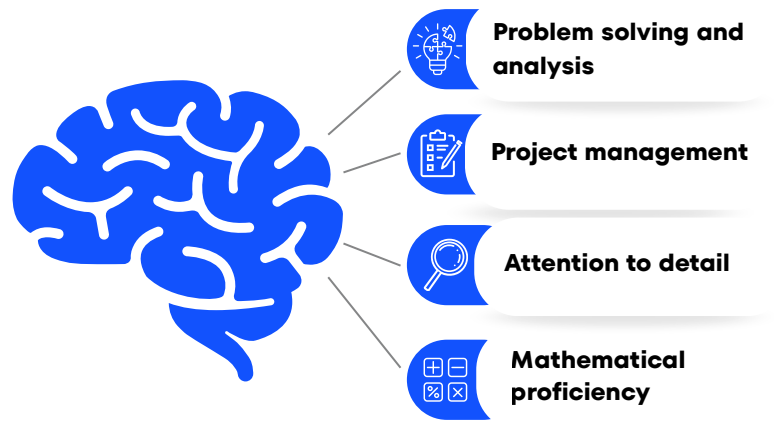


Examples of Job Titles

- Control systems engineer
- Instrumentation and control engineer
- Electronics test engineer

Nuclear Industry Upskilling

- Training in the regulatory and safety cultures that govern nuclear facilities
- May require CNSC Personnel Certification, requiring successful completion of evaluated training, a management interview, and a CNSC exam



TEER 2

SKILLED LABOUR

TEER 2 occupations primarily require post-secondary education from college, CÉGEP, etc., and apprenticeship training of two or more years. Professions in this TEER are expected to be in very high demand, as they are set to experience the largest workforce gap among all jobs.

IRONWORKER

Ironworkers are highly skilled professionals who install structural steel, reinforcing steel (rebar), and other structural components for nuclear buildings, including containment structures, turbine halls, and support structures for major equipment. They specialize in iron and steel but often work with concrete and other construction metals.



Job Duties

- Install structural steel, reinforcing steel (rebar), and embedments following the engineering drawings and specifications
- Operate or direct cranes, hoists, and rigging equipment to position heavy structural components safely
- Weld, bolt, or tie connections to the standards required by nuclear codes, often under inspector sign-off at each step

Qualifications

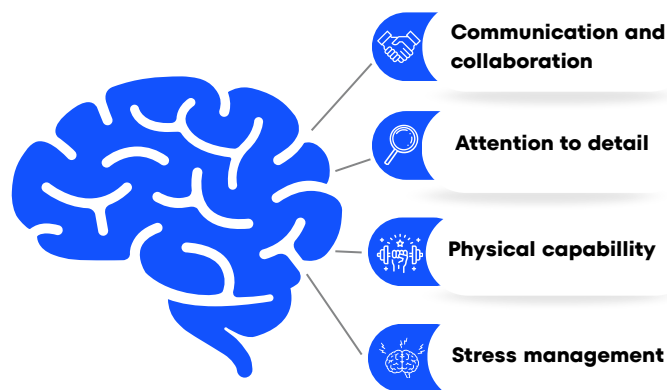
- High school diploma
- A 2-3 year apprenticeship program or relevant work experience in the trade
- Courses in ironworking may be required
- Trade certification may be required, but it varies across provinces and ironworking specialties
- Red Seal endorsement is also available to qualified ironworkers upon successful completion of the interprovincial Red Seal examination

Examples of Job Titles

- Structural and ornamental ironworker
- Reinforcing ironworker
- Structural steel erector

Nuclear Industry Upskilling

- Training in the regulatory and safety cultures that govern nuclear facilities
- Quality assurance/documentation discipline, requiring inspector signoffs and mandatory holding points



STEAMFITTER, PIPEFITTER, AND SPRINKLER SYSTEM INSTALLER

Plumbing experts who install, maintain, and design pipes for fuel systems, including heating and cooling. Steamfitters and pipefitters both work with piping systems, but steamfitters are specifically trained to work with pipes that carry high-pressure materials.

Job Duties

- Read isometric drawings and engineering specifications to fabricate, cut, bend, and assemble pipe
- Work with engineers to identify requirements, select materials, and interpret specifications to install and optimize piping systems
- Test for leaks and verify flow rates and pressures after installation and for maintenance over the facility's life

Qualifications

- High school diploma
- Completion of a 4-5 year apprenticeship program or a combination of over 5 years of work experience in trade and some high school, college or industry courses in steam fitting, pipefitting, or sprinkler system installation
- Depending on the province and area of specialization, a trade certification may be required
- Red Seal endorsement is also available to qualified steamfitters and pipefitters upon successful completion of the interprovincial Red Seal examination

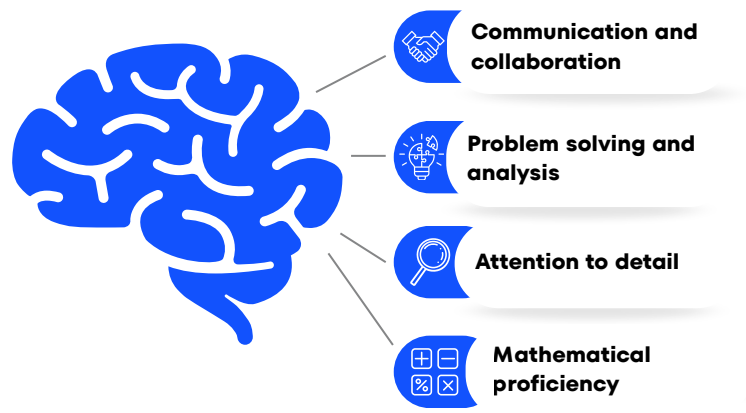


Examples of Job Titles

- Welding pipefitter
- Steam main servicer
- Radiator pipe installer

Nuclear Industry Upskilling

- Training in the regulatory and safety cultures that govern nuclear facilities
- Nuclear-grade welding certification
 - Obtain site-specific nuclear welding training and pass ASME Section III qualifications
 - CNSC Personnel Certification requiring successful completion of evaluated training, a management interview, and a CNSC exam



INDUSTRIAL ELECTRICIAN

Industrial electricians are responsible for installing, inspecting, and repairing electrical equipment and components for industrial electrical systems within nuclear facilities.

Job Duties

- Read and interpret drawings and blueprints to determine the layout and installation specifications for industrial electrical systems and equipment
- Diagnose issues in electrical and electronic systems and repair them as needed
- Install, cut, and thread various electrical system components, including electrical wiring, conduits, control systems, etc.

Qualifications

- High school diploma
- Complete a 4-5 year apprenticeship program or have a combination of more than 5 years of work experience and some education in industrial electrical equipment
- Depending on the province and area of specialization, a trade certification may be required; for example, certification is mandatory in Prince Edward Island, but optional in British Columbia
- The Red Seal endorsement is available to industrial electricians who have completed the interprovincial Red Seal examination

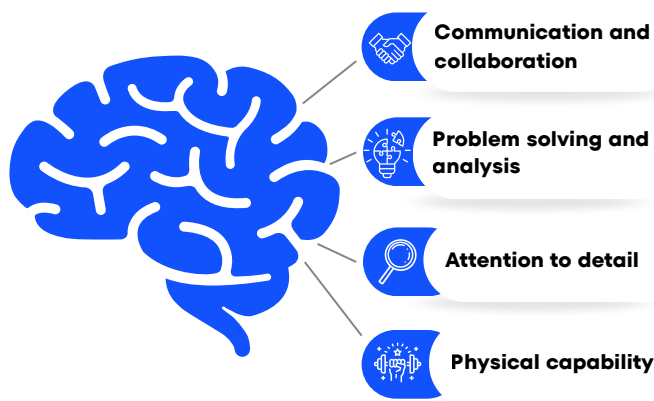


Examples of Job Titles

- Industrial electrician
- Instrumentation and control electrician
- Plant maintenance electrician

Nuclear Industry Upskilling

- Training in the regulatory and safety cultures that govern nuclear facilities
- Training in strict physical/electrical separation between redundant safety trains (so a single fire or fault can't take out both), which shows up as specific cable routing and rules not encountered in commercial work



CHEMICAL TECHNOLOGIST AND TECHNICIAN

Chemical technologists and technicians at nuclear plants monitor the water and chemicals flowing through the reactor and its systems, watching for anything that could corrode equipment or compromise safety. They also check for radioactivity in plant water and air, including tritium levels at CANDU reactors, before anything is released to the environment. The work involves running lab tests and producing regular reports.

Job Duties

- Monitor and adjust coolant, moderator, and steam generator/cooling water chemistry to prevent corrosion and protect plant equipment
- Analyze plant systems for radioactive content (including tritium) and check releases against CNSC-licensed limits before anything leaves the plant
- Run on-site analytical tests and produce regular chemistry reports for equipment-life tracking and regulatory compliance
- Assist with decontamination, radioactive waste characterization, and coordination with the Radiation Protection group

Nuclear Industry Upskilling

- Training in the regulatory and safety cultures that govern nuclear facilities
- Training in tritium monitoring, dosimetry interaction, and handling procedures that go beyond general radiochemistry coursework

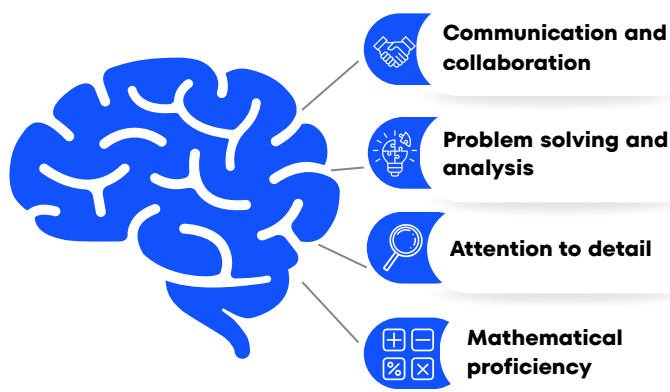


Qualifications

- Completion of a college program in chemical engineering technology or a related field
 - Technologists require a 2-3 year program, whereas technicians require a 1-2 year program
- Certification in chemical engineering technology or in a related field obtained through provincial regulating associations may be required

Examples of Job Titles

- Chemical engineering technician
- Industrial hygiene technologist
- Chemical research technician



POWER SYSTEMS OPERATOR AND POWER ENGINEER

A) POWER ENGINEER

Power engineers operate and maintain the conventional plant systems at a nuclear station to provide heat, light, refrigeration and other utility services.

Job Duties

- Operate control systems, stationary engines, and other equipment used for utility services
- Support conventional system outage planning alongside the site's broader refuelling/maintenance outage schedule
- Maintain logs and inspections according to licensing requirements

Nuclear Industry Upskilling

- Training in the regulatory and safety cultures that govern nuclear facilities
- May require CNSC Personnel Certification, requiring completion of evaluated training, a management interview, and a CNSC exam
- Some colleges (e.g. Georgian College) offer a nuclear-enhanced Power Engineering curriculum, building towards certification

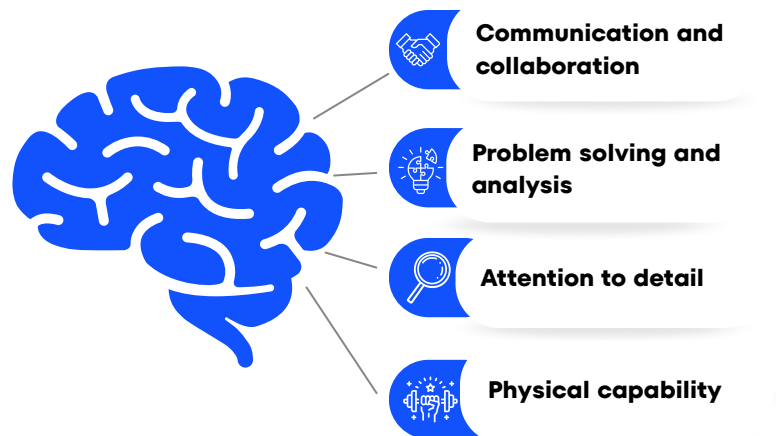
Examples of Job Titles

- Chief operating engineer
- Stationary engineer
- Nuclear reactor operator



Qualifications

- High school diploma
- College training program in power engineering
- Must have completed at least one of the five levels in Technical Standards and Safety Authority (TSSA) Operating Engineer Certificate, ranging from fifth class (entry level) to first class (highest level)



POWER SYSTEMS OPERATOR AND POWER ENGINEER



B) POWER SYSTEMS OPERATOR

Power systems operators monitor and operate switchboards and related equipment in electrical control centres to control the distribution of electrical power in transmission networks.

Job Duties

- Oversee the administration aspects of the generating station, power loads, and line voltages to ensure they meet the demands during operations, repairs, and system outages
- Collaborate with maintenance and technical staff to fix system issues and perform routine system testing

Nuclear Industry Upskilling

- Training in the regulatory and safety cultures that govern nuclear facilities
- May require CNSC Personnel Certification, requiring successful completion of evaluated training, a management interview, and a CNSC exam
- Ontario Power Generation (OPG) provides an 18-month nuclear operator in-training (NOIT) that includes classroom instruction, computer learning, and on-site experience to prepare candidates to operate and maintain nuclear generating stations safely and efficiently

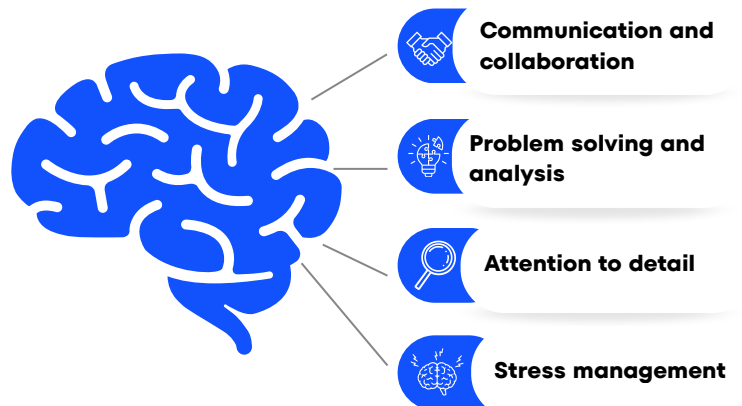


Examples of Job Titles

- System control operator
- Power system operator
- Nuclear reactor operator

Qualifications

- High school diploma
- A 3-5 year program system operator apprenticeship; 3 years of work experience in the trade or education in electrical and electronic technology may also be accepted



SHEET METAL WORKER

Sheet metal workers fabricate, install, and maintain sheet metal systems, including HVAC ductwork and cladding, supporting ventilation in both conventional and safety-related plant areas.

Job Duties

- Measure, mark, and lay out sheets of metal in accordance with engineering and architectural drawings
- Design, assemble, install, and repair HVAC systems
- Create ductwork supporting safety-related ventilation to nuclear quality assurance standards
- Install fire and radiological barrier penetration seals

Qualifications

- High school diploma
- Trade certification requiring a 3–5 year apprenticeship program
- The Red Seal endorsement is available to sheet metal workers who have completed the interprovincial Red Seal examination

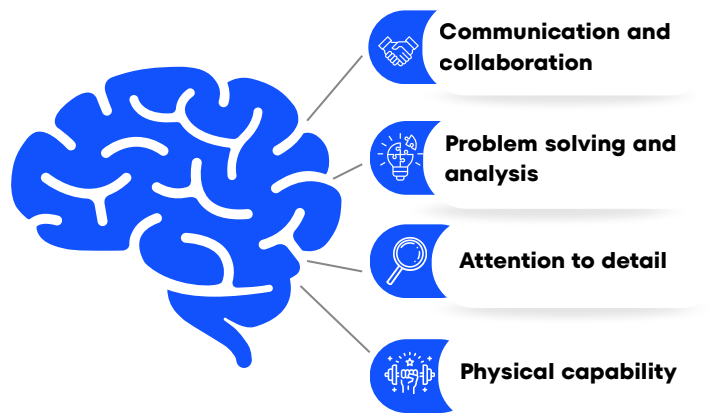


Examples of Job Titles

- Apprentice sheet metal worker
- Sheet metal mechanic
- Tinsmith

Nuclear Industry Upskilling

- Training in the regulatory and safety cultures that govern nuclear facilities



CONSTRUCTION ESTIMATOR



Construction estimators are responsible for providing project estimates based on various aspects of a project, including blueprints, materials, labour cost, and scheduling.

Job Duties

- Provide periodic project cost estimates, expenditure statements, and financial forecasts, and adjust throughout the project
- Price nuclear qualified materials and labour
- Develop contingencies for radiological-area productivity loss and mandatory quality assurance hold points

Qualifications

- High school diploma
- 3-year college program in civil or construction engineering technology
- Canadian Institute of Quantity Surveyors (CIQS) Construction Estimator Certification (CEC)
- Canadian Construction Association's (CCA) Gold Seal Certification is available to estimators who have completed the interprovincial Gold Seal standards

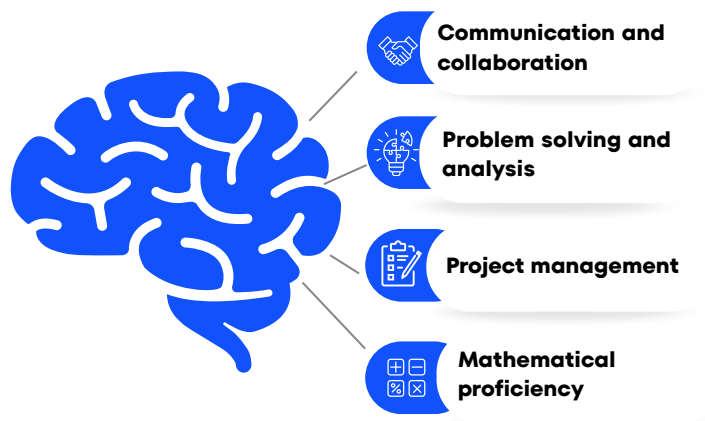


Examples of Job Titles

- Chief estimator
- Construction estimator
- Cost estimator (EPC)

Nuclear Industry Upskilling

- Training in the regulatory and safety cultures that govern nuclear facilities



USER SUPPORT TECHNICIAN

User support technicians provide IT helpdesk/desktop support to resolve technological problems, including hardware, software, and communication issues, with heightened security awareness given the cybersecurity nature of nuclear plant systems.

Job Duties

- Standard desktop support
- Controlling software and system access under strict identity/security protocols
- Ensuring compliance with cybersecurity requirements and liaising with cybersecurity teams on any device that could touch plant networks

Qualifications

- A college or vocational program in a field related to computer technology
- Certain employers may require certification or training from software vendors
- Helpdesk experience

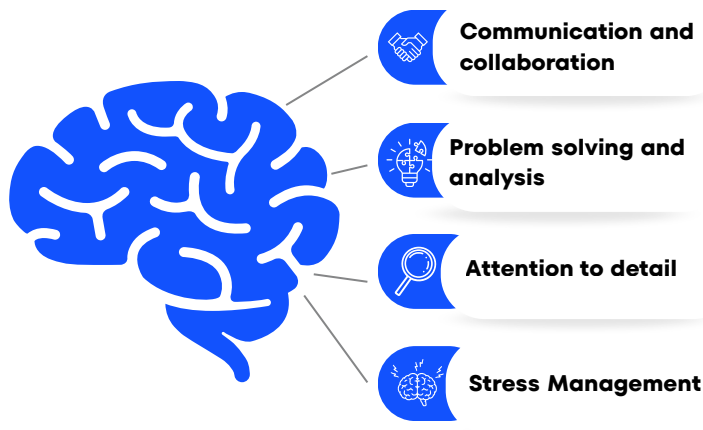


Examples of Job Titles

- IT Support technician
- Systems support representative
- Software installation technician

Nuclear Industry Upskilling

- Training in the regulatory and safety cultures that govern nuclear facilities



FIREFIGHTER

Firefighters provide on-site fire suppression, medical first response, rescue, and HAZMAT response, integrated into the plant's nuclear emergency response processes.

Job Duties

- Respond to site incidents (fire, medical, rescue from heights/confined spaces, etc) within prescribed response times
- Perform radiation emergencies/drills, including radiation surveys and contamination handling
- Inspect fire protection equipment and review work permits

Qualifications

- High school diploma
- Completion of a college program in a fire protection-related field and supervised training, or several years of municipal volunteer firefighting experience
- NFPA 1001 Firefighter Level I and II

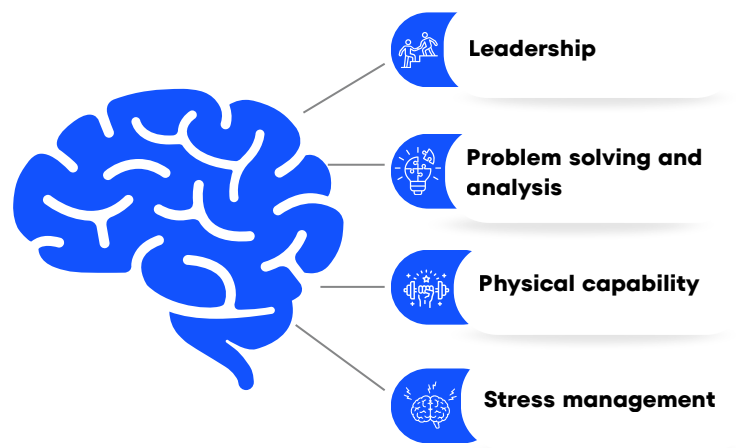


Examples of Job Titles

- Structural firefighter
- Senior officer/captain - emergency and protective services fire
- Fire safety inspection

Nuclear Industry Upskilling

- Training in the regulatory and safety cultures that govern nuclear facilities
- Firefighters working in a nuclear setting should have NFPA 472 (Hazardous Materials Responder – Technician Level) certification



CONSTRUCTION INSPECTOR

Construction inspectors verify that nuclear construction work is performed and documented in accordance with the applicable code and the project's quality plan, and hold mandatory inspection checkpoints before work proceeds.

Job Duties

- Examine building plans, drawings, and site layouts of new construction projects to ensure compliance
- Inspect electrical and plumbing systems to ensure compliance with building codes and regulations
- Develop, implement and assess workplace safety practices, including coordinating non-destructive testing, documenting non-conformances, and implementing corrective actions

Qualifications

- High school diploma
- College diploma in construction, civil engineering or architectural technology plus several years of related work experience or several years of experience as a qualified tradesperson in a construction trade, such as plumbing, carpentry or electrical trade
- Provincial certification in a skilled trade is typically required
- LEED certification may be required
- Certification as a Construction Safety Officer (CSO) from a provincially chartered association may be required

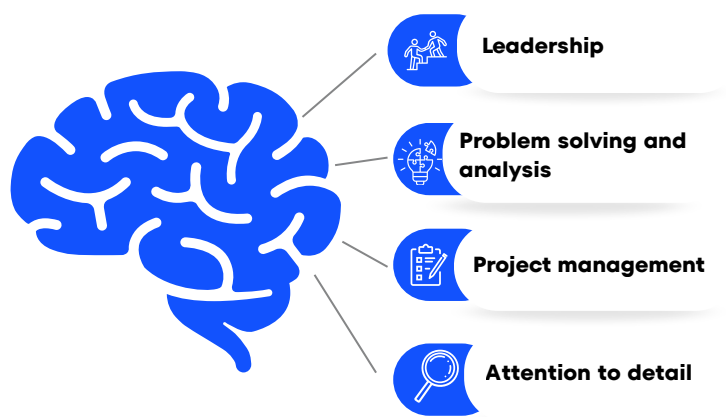


Examples of Job Titles

- Wiring inspector
- Authorized inspector
- Quality control inspector

Nuclear Industry Upskilling

- Training in the regulatory and safety cultures that govern nuclear facilities
- Nuclear-specific Non Destructive Testing certification



MECHANICAL ENGINEERING TECHNOLOGIST AND TECHNICIAN

Mechanical engineering technologists and technicians provide support and services in mechanical engineering, including design, drafting, testing, and field support for plant mechanical systems.

Job Duties

- Incorporate modifications and change requests into documentation
- Plan and schedule preventive and corrective maintenance.
- Support design and field walkthroughs for mechanical modifications

Qualifications

- College diploma in mechanical engineering technology or related field; 2-3 year program for technologists and 1-2 year program for technicians
- Certification in mechanical engineering technology or in a related field may be required, obtained through provincial associations of engineering/applied science technologists and technicians

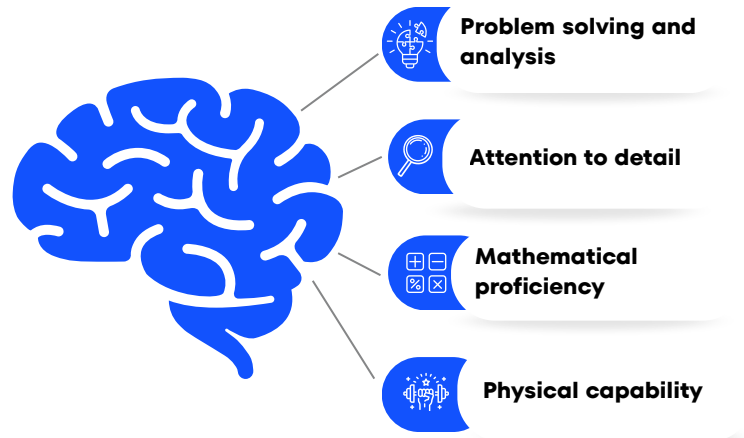
Examples of Job Titles

- Mechanical designer
- Mechanical engineering technologist
- Mechanical engineering technician



Nuclear Industry Upskilling

- Training in the regulatory and safety cultures that govern nuclear facilities
- Certified in Emerging Technology (CET) certification with a nuclear specialty may be required
- OPG offers a 4-year training program to mechanical technicians working in a nuclear generating station



ELECTRICAL & ELECTRONICS ENGINEERING TECHNOLOGISTS AND TECHNICIANS

Electrical engineering technologists and technicians support electrical engineers in the design, testing, calibration, and field troubleshooting of plant electrical and instrumentation systems.

Job Duties

- Supervise or perform the installation and operation of electronic equipment and systems
- Conduct research in electrical and electronic engineering and physics with the supervision of scientists or engineers
- Assist with or perform specialized tests to assess the quality of electrical and electronic systems
- Assist in the design of CAD drawings

Qualifications

- College diploma in electrical engineering technology or related field; 2-3 year program for technologists and 1-2 year program for technicians
- Certification in electrical or electronic engineering technology-related fields may be a requirement, obtained through provincial associations of engineering/applied science technologists and technicians

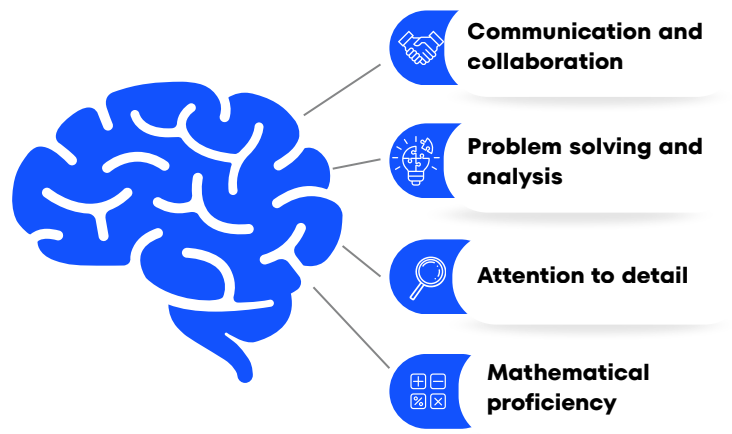


Examples of Job Titles

- Electrical designer
- Electrical engineering technology
- Instrumentation technician

Nuclear Industry Upskilling

- Training in the regulatory and safety cultures that govern nuclear facilities
- OPG offers a 4-year training program to electrician technicians working in a nuclear generating station



CIVIL ENGINEERING TECHNOLOGIST AND TECHNICIAN



Civil engineer technologists and technicians provide technical support services to professionals in fields such as structural engineering, municipal engineering, and environmental protection.

Job Duties

- Prepare engineering designs and drawings based on preliminary ideas
- Perform administrative tasks such as creating cost and material estimates, reports, and project schedules
- Oversee or perform inspections and testing of construction materials
- Perform field surveys and inspections of soils, water systems, and structures to collect data for engineering projects

Qualifications

- College diploma in civil engineering technology or related field; 2–3 year program for technologists and 1–2 year program for technicians
- Certification in civil engineering technology-related fields may be a requirement, obtained through provincial associations of engineering/applied science technologists and technicians

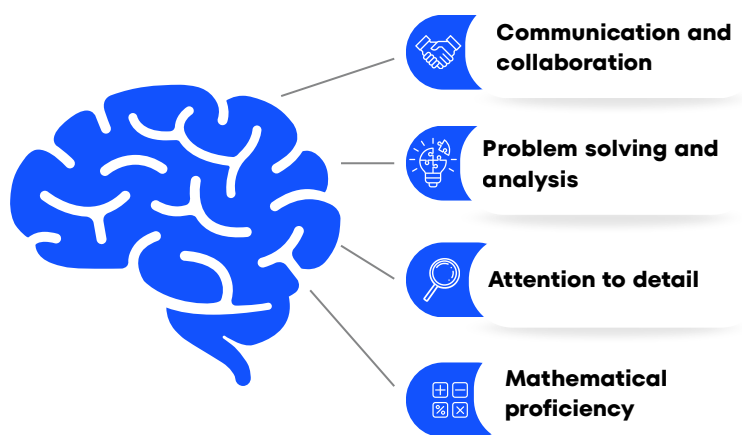


Examples of Job Titles

- Construction technologist
- Structural investigator
- Pollution control technician

Nuclear Industry Upskilling

- Training in the regulatory and safety cultures that govern nuclear facilities



TEER 3

SKILLED LABOUR

TEER 3 occupations typically require post-secondary education from a college, CÉGEP, etc., and either less than 2 years of apprenticeship training or more than 6 months of on-the-job experience.

HEAVY EQUIPMENT OPERATOR

Heavy equipment operators are trained to operate heavy machinery across various projects, including nuclear plant construction, uranium mining, and outage work.

Job Duties

- Operate heavy equipment to move, unload, and load materials
- Move materials within radiologically controlled construction zones
- Perform routine equipment inspections under nuclear site safety rules

Qualifications

- Some high school education is required
- 1-2 year union apprenticeship program or a combination of courses in heavy equipment operation with on-the-job training is required
- Trade certification for heavy equipment requirements varies across provinces and territories
- The Red Seal endorsement is available to heavy equipment operators who have completed the interprovincial Red Seal examination

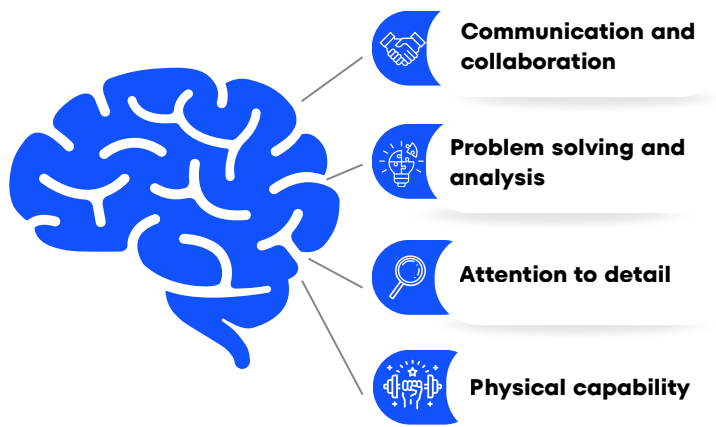


Examples of Job Titles

- Heavy equipment operator
- Crane operator
- Bulldozer operator

Nuclear Industry Upskilling

- Training in the regulatory and safety cultures that govern nuclear facilities



TRANSPORT TRUCK DRIVER

Transport truck drivers operate various commercial vehicles to transport construction materials, equipment, and other components needed for projects. In specialized roles, they may transport controlled nuclear substances to and from nuclear sites. Long-haul truck drivers travel far distances, whereas short-haul truck drivers travel to nearby destinations.



Job Duties

- General site delivery and logistics driving, likely with security-controlled site access for nuclear plants
- Monitor and complete inspections throughout the trip to ensure the safety of the vehicle and cargo
- Supervise the loading and unloading of materials

Qualifications

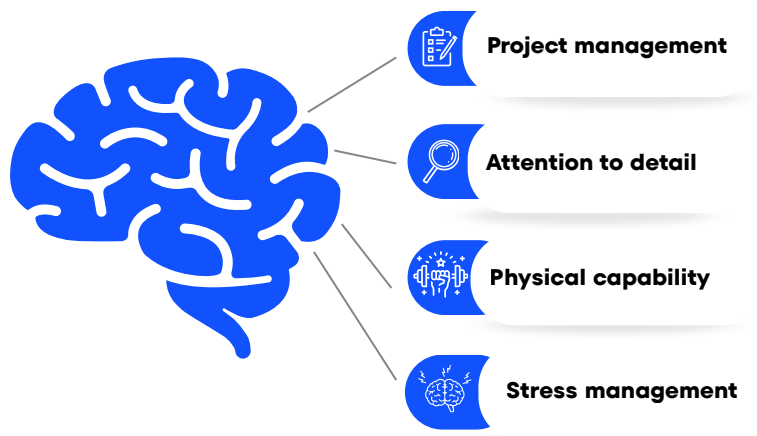
- High school diploma
- Commercial AZ license
- Commercial vehicle operator's registration (CVOR) and clean record

Examples of Job Titles

- Truck driver
- Heavy equipment transport driver
- Radioactive materials transport driver

Nuclear Industry Upskilling

- Training in the regulatory and safety cultures that govern nuclear facilities
- Transportation of Dangerous Goods and WHMIS training
- On-the-job shadowing of senior drivers with experience transporting dangerous goods



TEER 4

ON-THE-JOB TRAINED

TEER 4 occupations typically require a high school diploma or several weeks of on-the-job training. These TEER and TEER 0 are set to experience similar workforce gaps.

SECURITY GUARD AND RELATED SECURITY SERVICE OCCUPATIONS



Security guards and related security service workers implement and enforce security measures to protect property, uphold regulations, and screen personnel.

Job Duties

- Control movement of persons, materials, and vehicles
- Search for weapons, explosives, and nuclear material
- Respond to and assess alarms
- Detain intruders
- Operate security systems and patrol the plant

Qualifications

- A high school diploma may be required
- A college diploma related to law and security may be required
- There may be provincial requirements for a Security Guard license
- If requiring a firearm, a valid firearms license and Certification to Carry is required

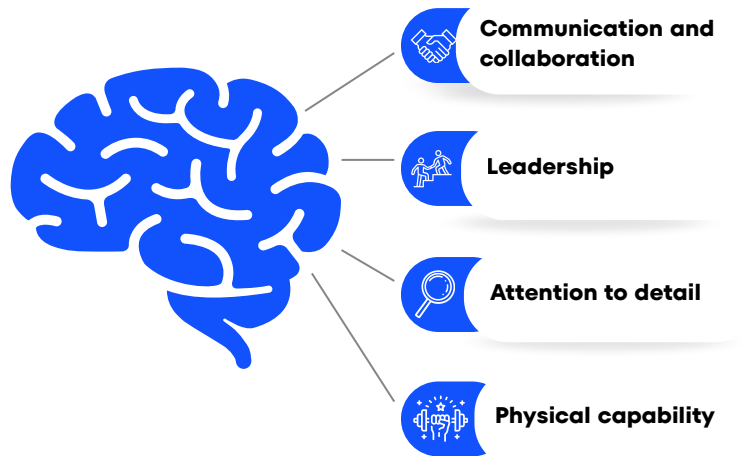


Examples of Job Titles

- Night guard
- Nuclear security officer (NSO)
- Corporate security officer

Nuclear Industry Upskilling

- Training in the regulatory and safety cultures that govern nuclear facilities
- NSOs require certifications designated by the CNSC that verify suitability across physical, psychological, and medical standards



UTILITY MAINTENANCE WORKER

Utility maintenance workers perform general maintenance, upkeep, and minor repairs to support non-safety-related plant utility systems and general site infrastructure.

Job Duties

- General repairs and equipment upkeep
- Support trades with material handling
- Organize work areas to nuclear cleanliness and foreign material exclusion (FME) standards

Qualifications

- A high school diploma may be required
- General work experience may be required

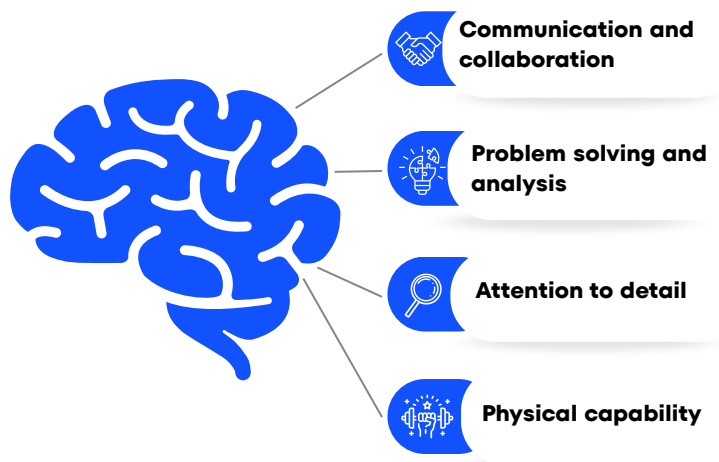


Examples of Job Titles

- Utility worker
- Maintenance worker
- Plant maintainer

Nuclear Industry Upskilling

- Training in the regulatory and safety cultures that govern nuclear facilities



TEER 5

ON-THE-JOB TRAINED

TEER 5 occupations usually need short-term work demonstration and no formal education.

OTHER TRADES HELPERS AND LABOURERS

Trade helpers and labourers provide general labour support to skilled trades on nuclear construction and maintenance work.

Job Duties

- Handle material and housekeeping of the site, including foreign material exclusion control
- Support tradespeople
- Basic demolition and prep work
- Scaffold and material staging

Qualifications

- No formal credentials typically required

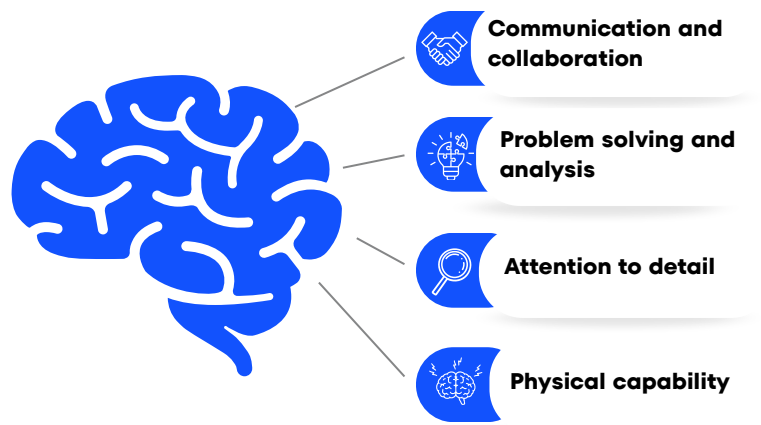


Examples of Job Titles

- Trades helper
- Construction labourer
- Survey helper

Nuclear Industry Upskilling

Training in the regulatory and safety cultures that govern nuclear facilities



JANITOR, CARETAKER, AND HEAVY-DUTY CLEANER

Janitors, caretakers and heavy-duty cleaners provide cleaning and housekeeping services for sites.

Job Duties

- Clean the interior of buildings by disposing of waste, disinfecting washrooms, and sweeping
- Occasionally support decontamination crews

Qualifications

- No formal credentials typically required

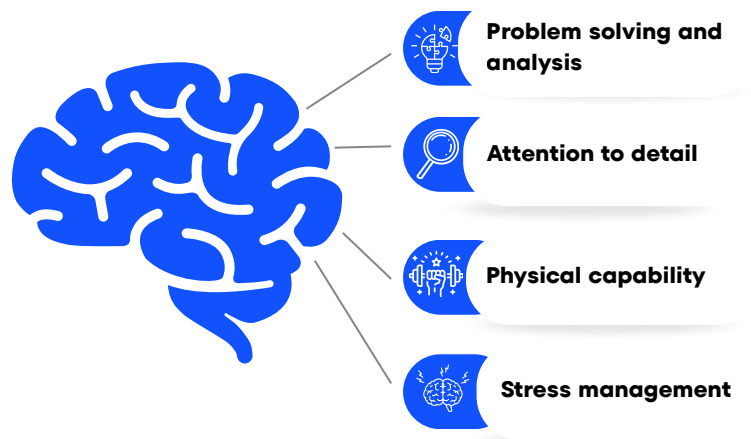


Examples of Job Titles

- Custodian
- Janitor
- Heavy-duty cleaner

Nuclear Industry Upskilling

- Training in the regulatory and safety cultures that govern nuclear facilities



Nuclear Upskilling Opportunities

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1 DAY

Saskatchewan Polytechnic Growing Awareness in Nuclear (GAIN)

In partnership with National Skills Academy Nuclear (NSAN), Saskatchewan Polytechnic offers nuclear training courses for those looking to transition or start their career in nuclear. GAIN is a one-day introductory course that covers topics such as nuclear legislation, safety principles, nuclear waste treatment, and more.

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2 DAYS

University Network of Nuclear Excellence in Engineering (UNENE) Short Courses

UNENE's two-day Short Courses deliver learning for real-world application in key areas of nuclear science and engineering. Designed for both graduate students and nuclear industry professionals, these sessions are a fast, practical way to refresh your knowledge or dive deeper into specialized topics to sharpen technical skills, stay current with industry practices, or gain insights from experienced instructors.

Nuclear Upskilling Opportunities



11 WEEKS

Ontario Tech University Nuclear Career Accelerator Program

Ontario Tech University offers an 11-week online nuclear career accelerator program designed for professionals looking to transition into the nuclear sector. This program teaches the basics of nuclear science, regulatory requirements, nuclear power plant operations, and much more.



2 YEARS

Algonquin College Applied Nuclear Science and Radiation Safety Program

The Algonquin College applied nuclear science and radiation safety program is a two-year program related to nuclear science. The courses cover the fundamentals of nuclear operations, nuclear waste management, and radiation detection. Graduates of this program often end up employed in nuclear power plants or nuclear-based research facilities, working as radiation protection technicians, naturally occurring radioactive materials (NORMS) technicians, or contamination monitors.

Nuclear Upskilling Opportunities



4 YEARS

Nuclear Engineering Undergraduate

Ontario Tech University hosts Canada's only accredited undergraduate Nuclear Engineering degree. Also home to grad research in nuclear/energy systems.



3 MONTHS
TO 4 YEARS

McMaster University Nuclear Courses

With over 60 course offerings focused on nuclear chemistry, technologies, medicine, radiation studies, environmental protection and more, students can gain a wide range of knowledge, skills and experience that sets them up for success in their professional pathways.

- 40+ undergraduate courses
- 20+ graduate courses
- Nuclear-specific certificates and minors
- Master's programs in nuclear engineering and radiation sciences

Nuclear Upskilling Opportunities



LAUNCHING
SOON

Canadian Nuclear Learning Centre

Canadian Nuclear Laboratories (CNL), Canada's premier nuclear science and technology laboratory, and Atomic Energy of Canada Limited (AECL), Canada's nuclear Crown corporation, have partnered with UNENE to develop a Canadian Nuclear Learning Centre (CNLC). The centre will coordinate education, training, knowledge management and workforce development across the sector.



LEARN
MORE

More Leaders in Preparing the Nuclear Workforce

- CNA's Workforce Planning Advisory Council
- Georgian College
- Humber College
- Nuclear Innovation Institute
- Queen's University
- University of Toronto
- Western University



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