

POSITION DESCRIPTION

Position Title	Electrical Intern - Penning Ion Source Re-Assembly and Experiment Preparation (SIRC)
Department/School	Selkirk Innovates
Reports to	Morgan Dehnel, Research Chair
Employee Group	N/A
Pay Grade	\$21.97/hr + 4% in lieu (currently enrolled students) \$23.97/hr + 4% in lieu (recent graduates)
Total Hours	Approximately 400
Work Term	3-6 months with possibility of 400-hour extension, based on performance and funding availability.
Start Date	Anticipated start in February 2026, pending identification of qualified candidate
Location	Selkirk Ion-source Research Centre (SIRC), Trail BC
How to Apply	Submit resume and cover letter as attachments to innovate@selkirk.ca by January 25, 2026

POSITION SUMMARY

This is a student internship specifically designed for electrical apprenticeship or undergraduate electrical engineering students to:

- Develop professional competencies related to their course of studies
- Transfer their classroom understanding of academic concepts to ion source research.

The selected intern will work closely with a multidisciplinary team of PhD and Master's-level interns, researchers at the Selkirk Ion-source Research Centre (SIRC) and Selkirk Technology Access Centre (STAC), and consultants. This is an excellent opportunity for a student or recent graduate looking to apply their electrical knowledge to a complex, real-world system involving high voltage, control logic, and safety-critical components.

This is a Mitacs Accelerate Internship supporting SIRC in partnership with D-Pace, a supplier of products and services to the international commercial accelerator industry located in Nelson, BC. The internship will focus on rebuilding a Penning Ion Source Test stand from custom portions donated to SIRC by D-Pace. Prior to the test stand being used for physics experiments, the commercial vacuum components, power supplies, HV racks, controllers, control system components, and safety sensors and equipment must be assembled/installed/cabled, and the overall system must then be commissioned. The overall objective of this internship is to assist with the electrical requirements of this assembly.

Internship deliverables include a working prototype of the final "optimized" version of the Penning ion source for achieving defined research project goals of complementary Mitacs internships; a Commissioning Plan and Inspection Test Plan; and documenting the "as-built" system with finalized schematics, cabling layouts, and commissioning procedures.

The successful applicant will be required to enroll in the Selkirk Innovates applied research internship training program, which currently does not have a fee.

COMMITMENT TO INCLUSIVE EXCELLENCE

The diversity of our workforce is at the core of our innovation and creativity and strengthens our research and teaching excellence. In keeping with our strategic commitment to Diversity and Inclusion, Selkirk College strives to embody the values of respect, collaboration and diversity, and has a strong commitment to employment equity.

Selkirk Innovates seeks qualified candidates who share our commitment to equity, diversity and inclusion, who will contribute to the diversification of ideas and perspectives, and especially welcomes applications from First Nations, Métis and Inuit peoples, members of racialized communities (“visible minorities”), persons with disabilities, women, and persons who identify as 2SLGBTQ+.

MAIN DUTIES AND RESPONSIBILITIES

- Preparing a detailed Bill of Materials (BOM) for all electrical and vacuum system components.
- Installing and wiring HV/LV power supplies, control systems, sensors, and safety systems.
- Interpreting and adapting legacy electrical schematics and diagrams for new infrastructure.
- Planning and installing cable trays, field devices, and PLC connections.
- Performing pre-commissioning tasks including motor checks, wiring terminations, and system power-up under licensed oversight.
- Documenting the “as-built” system with finalized schematics, cabling layouts, and commissioning procedures.
- Contribute to reports, articles and presentations as required.
- Work both independently and with the research team.
- Complete Mitacs Accelerate Internship paperwork and reports.

QUALIFICATIONS

- Enrolled in, or recently graduated from, an Electrician Apprenticeship training or Electrical Engineering program
- Experience in industrial control wiring, HVAC, or PLCs is an asset.
- Experience navigating the 2024 Canadian Electrical Code.
- Strong technical and numeracy skills.
- Excellent attention to detail.
- Strong written communication skills.
- Experience with low voltage control systems and PLC is a strong asset, but not a requirement.
- Experience with installation, altering, repairing and maintaining electrical and electronic systems in commercial and industrial operations is an asset, but not a requirement. Training will be provided.
- Excellent interpersonal, time management, and organizational skills.
- Demonstrated experience working independently and as part of a team.
- Proven ability to complete tasks under pressure and be flexible.
- Ability to prioritize work and meet deadlines.

Students from the Industrial Electrical Apprenticeship program and Electrical Foundations program are encouraged to apply. Candidates from all program areas are welcome to apply, including recent graduates.

RESUME AND COVER LETTER INSTRUCTIONS

Applicants are required to submit a resume and cover letter as attachments. The cover letter may be up to one page in length and should include the following:

- Summary of why the applicant is interested in the position.
- Explanation of how the applicant's skills and experience are relevant to the position.
- Explanation of how the applicant meets the required qualifications.