



Virtual Underground Mining Lab

The Virtual Underground Mining Lab is a cutting-edge initiative by Saskatchewan Polytechnic's Mining Engineering Technology program. Developed in collaboration with The Learning Network (TLN), this project integrates **virtual reality (VR)** technology to create an immersive, hands-on learning environment that enhances student training and industry preparedness.

Key Outcomes & Benefits

- **Enhanced Student Learning** – Provides realistic mining simulations, improving comprehension and skills.
- **Industry-Ready Graduates** – Reduces the need for extensive on-site training.
- **Increased Accessibility** – Offers a safe and cost-effective alternative to physical mine visits.
- **Health & Safety Emphasis** – Familiarizes students with mine hazards before entering the workforce.
- **Expanded Training Opportunities** – Includes VR-based geological mapping, survey techniques, and structural geology labs.

This lab is available to other technical programs at Saskatchewan Polytechnic, Saskatchewan universities, high schools, First Nations communities, colleges, and mining company worker upgrade programs.

What's Next

The next phase of development will focus on expanding the VR lab's training capabilities, particularly in the areas of safety and emergency preparedness. Two modules currently under investigation include:

1. **Daily Safety module** – a virtual training module to reinforce daily safety procedures for mining operations.
2. **Emergency Preparedness module** – a simulation designed to train students in emergency response protocols for underground environments.

By continuing to refine and expand the VR learning environment, Saskatchewan Polytechnic is ensuring that students gain industry-relevant skills in a safe, controlled, and technologically advanced setting.



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The Virtual Underground Mining Lab is revolutionizing mining education by providing students with **industry-aligned, immersive training experiences**. By leveraging VR technology, Saskatchewan Polytechnic ensures students are well-prepared for careers in mining, reinforcing its leadership in modern technical education.

By embracing cutting-edge technology-enhanced learning, Saskatchewan Polytechnic has positioned itself as a leader in modern mining education, ensuring that students graduate with the skills, knowledge, and hands-on experience needed to excel in the evolving mining industry.

Proponent: Saskatchewan Polytechnic

Project Duration: September 2023 to December 2024

Project Cost: \$100,407

IMII Contribution: \$100,407