Mineral Exploration and Mining Info Session
The British Columbia Institute of Technology acknowledges that our campuses are located on the unceded traditional territories of the Coast Salish Nations of Skwxwú7mesh (Squamish), səl̓ilwətaʔɬ (Tsleil-Waututh), and xwməθkwəyəm (Musqueam).
Why would I want to work in the Mineral Exploration and Mining industry?
Mineral Exploration and Mining video
You enjoy the outdoors
Are tech savvy
Looking for variety
Want to work abroad
Or stay close to home

Vancouver is home to the world’s largest cluster of junior exploration companies.
Job security

Mining organization hiring difficulties over past 12 months:

Source: Mining Industry Human Resources Council (2019 National Employer LMI)
Job security

Forecast of Annual Workforce Exits from Mining Industry, Baseline Scenario (2020-2030)

Source: Mining Industry Human Resources Council, Statistics Canada (System of National Accounts, 2016 Census), 2019
Job security

Australian Mining Industry Facing Significant Recruitment Challenges, Says Techforce
AZOMining, January 30, 2023

US worker shortage dents Freeport-McMoRan’s copper output
Mining.com, January 25, 2023

Mining engineer skills shortage is imminent – report
Mining.com, March 10, 2021

Mining schools in Timmins, Sudbury, say industry facing workforce shortage
CTV News Northern Ontario, September 3, 2020

Futureproofing education for mining
Mining Journal, Sept. 11, 2019

There is ample evidence to suggest the mining industry is starting to feel a labour shortage across various functions and in many countries where mining has traditionally played an important economic role.
Mineral Exploration and Mining

- Mineral Exploration and Mining Technology Diploma (2 years)
- Mining and Mineral Resource Engineering Degree (4 years)
Entry Requirements

Level 1 Diploma
Capacity: 46 students

Physics 11
Math 12 or Pre-Calculus 12
Chemistry 11
English 12**

67% *Minimum GPA in

Level 3 Degree
Capacity: 20 students

70% minimum †
GPA after levels 1 & 2

* Two years of education in English in an English-speaking country
**or 3 credits of post-secondary English, Humanities or Social Sciences from a recognized institution

†: and no course failures
Tech Entry

Missing a prerequisite, or need to upgrade?

→ 15 weeks, full-time, day program
→ Courses: MATH, PHYS, CHEM, COMM, COMP
→ Burnaby campus

More info: https://www.bcit.ca/study/programs/0020nobcit#overview
Diploma Program

Level 1
Common 1st year
(Diploma & Degree)

Level 2

Level 3
Technology Diploma 2nd year

Level 4

Graduate with BCIT
Mineral Exploration
and Mining Technology
Diploma

2 years
Degree Program

Apply to degree program via Mining Dept. (≥70% GPA) * Competitive admission

Common 1st year (Diploma & Degree)

Level 1 -> Level 2

Level 3 -> Level 4
Engineering Degree 2nd year

Level 5 -> Level 6
Engineering Degree 3rd year

Level 7 -> Level 8
Engineering Degree 4th year

Graduate with BCIT Mining and Mineral Resource Engineering Degree

4 years
Combined Program Map

Graduate with BCIT Mining and Mineral Resource Engineering Degree

~5 years

Level 1 → Level 2
Common 1st year (Diploma & Degree)

Level 3 → Level 4
Technology Diploma 2nd year

Level 3 → Level 4
Technology Diploma 2nd year

Option A
Apply to degree program via Mining Dept. (≥70% GPA)
* Competitive admission

Option B
BCIT graduates with Mineral Exploration and Mining Diploma apply for direct entry to degree program online via BCIT Admission Department

Level 3 → Level 4
Engineering Degree 2nd year

Level 5 → Level 6
Engineering Degree 3rd year

Level 7 → Level 8
Engineering Degree 4th year

Graduate with BCIT Mining and Mineral Resource Engineering Degree
Courses

- Mining/Capstone Project
  - Resource Estimation
  - Communication
  - Surface Mining
  - Exploration Planning
  - Underground Mining
  - Introduction to Mineral Industry
  - Mineralogy & Petrology
  - Statics and Strength of Materials
  - Mineral Deposits
  - Mineral Processing
  - Exploration Field School
  - Thermal & Fluid Science
  - Management Skills & Application

- CAD for Mining
- Physical Geology
- Rock & Soil Mechanics
- Surveying
- Computer Applications for Mining
- Exploration & Mine Safety
- Chemistry
- Structural Geology
- Innovations in Mining
- Mining Field School
- Resource Estimation
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- Exploration Field School
- Thermal & Fluid Science
- Management Skills & Application

- Sustainability, CSR & Indigenous Awareness
- Structural Geology
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Faculty – Industry Experts

>140 Years Collective Industry Experience in:

- 22 Countries
- 12 Disciplines

- Mine Closure
- Geothermal Energy
- Surface Mine Engineering
- Underground Mine Engineering
- Technical Manager
- Mine Consulting
- Project Evaluation
- Tailings Storage Management
- Operations Supervision
- Mine Geology
- Mineral Exploration
- Mine Reclamation
Field Trips

Take the classroom to the field

It’s not all books and whiteboards!
Exploration Field School

Hands-on, applied experience

Diploma and Degree students: Exploration Field School in SW BC
Mining Field School

Degree students: Mining Field School

Applied Knowledge = Ready-to-work graduates
Canadian Mining Games
Professional Designation

Technology Diploma graduates:
- ASTTBC (Applied Science Technologists and Technicians of British Columbia)
- Professional Technologist (Ptech)

Engineering Degree graduates:
- EGBC (Engineers and Geoscientists of British Columbia)
- Professional Engineer (P. Eng)
- Accreditation received June 2019
Career Options

Technology Diploma Graduates:
- Assay Lab Technicians
- Mineral Exploration
- Mine Operation Technologists:
  - Ventilation
  - Surveying
  - Blasting
  - Mineral Processing
  - Environmental
- Supplies Sales and Support
- Engineering Consultancy
- Operations Supervision

Engineering Degree Graduates:
- Mine Operations:
  - Mine Planning
  - Management
  - Business Planning
  - Mine Reclamation
- Project Evaluation
- Feasibility Studies
- Consulting
Let’s talk money

Assayer
$30,000-80,000/year

Engineering Technologist
$60,000-80,000/year

Geological Technician
$53,000-66,000/year

Environmental Technician
$49,000-54,000/year¹

Land Surveyor
$51,000-80,000/year

Mine Engineer
$66,000-125,000/year

Mine Superintendent
$113,000-205,000/year

Mine Supervisor
$74,000-110,000/year

Mine-in-Training, Tailings²
$102,000+/year

Drill & Blast Foreman²
$123,000/year

Engineering Consultant¹
$40,000-130,000/year

Salary ranges from: B.C. Career Pathways Guidebook, Edition 2 – MINING CAREERS; ¹Glassdoor; ²Infomine
Supporting our Students

- Recreation Services
- Early Assist
- Student Health Services
- On-campus Housing
- Financial Aid & Awards
- Academic & Learning Services
- International Student Centre
Indigenous Initiatives

• Indigenous Gathering Place
• Scholarships and financial aid
• Peer to peer mentorship
• Sweat lodge
• Elders in Residence
Mineral Exploration and Mining video
QUESTIONS & ANSWERS
Questions?

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Student Coordinator

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Resources

BCIT News stories:
- Mining for Mature Students
- BCIT Mining Student Scholarship
- Women in Engineering

Photo credit: Alexandra Fontaine
THANK YOU