

Mining



Is this your future career?

Experiential learning, reach ahead activities, certification and more... at **NO COST** to you.

About the Specialist High Skills Major (SHSM)

The Specialist High Skills Major (SHSM) is a specialized program approved by the Ministry of Education that allows students to focus their learning on a specific economic sector while meeting the requirements of the Ontario Secondary School Diploma (OSSD).

SHSMs assist students in their transition from secondary school to apprenticeship training, college, university or the workplace.

These programs enable students to gain sector-specific skills and knowledge in engaging, career-related learning environments, and prepare in a focused way for graduation and postsecondary education, training or employment.

Profile - Mining

Canada is now one of the largest mining nations in the world, producing more than 60 minerals and metals. The mining industry is a major player in Canada's economy and contributes nearly five per cent of the country's gross domestic product. Mining also accounts for 19 per cent of Canada's total exports. The mining industry provides Canadians with job opportunities. In 2007, the mining and mining processing industries directly employed 363,000 Canadians.¹

According to the Mining Industry Human Resources Council, over the next 10 years there will be a shortage of 92,000 workers in the mining and minerals sector.² The shortage will be especially critical in the following occupations: physical scientist, engineer, technician/technologist, skilled tradesperson, mine labourer and support staff. The anticipated demand is a result of industry growth, retirements (especially in the skilled trades), competition for labour from other economic sectors and the challenges of recruiting young people into mining occupations.

For more information, news articles and where this program is being offered, visit SHSM.rainbowschools.ca

¹ Mining Industry Human Resources Council, *Mining Industry in Canada*, www.acareerinmining.ca/en/industry/index.asp.

² Mining Industry Human Resources Council, www.mihrc.ca.

Mining

Required Components for the SHSM – Mining

The SHSM – Mining has the following five required components:

1. A bundle of nine Grade 11 and Grade 12 credits.

These credits make up the bundle:

- Four mining major credits that provide sector-specific knowledge and skills
- Three other required credits from the Ontario curriculum, in English, mathematics and science, or Canadian and world studies, in which some expectations are met through learning activities contextualized to the mining sector
- Two co-operative education credits that provide authentic learning experiences in a workplace setting, enabling students to refine, extend, apply and practise sector-specific knowledge and skills

Exception: If a student obtains a four (4) credit co-op, they may choose to use one additional co-operative education credit to substitute for one “major credit” and/or one “other required credit” (not from the Math or English categories).

Required Credits	Mining Major	English*	Mathematics*	Canadian and World Studies or Science*	Co-operative Education
Grade 11	2		1		
Grade 12	2	1		1	2
Number of credits (Total = 9)	4	1	1	1	2

* Includes content delivered in the sector's context.

There are NO extra credits required to complete this program.

All required credits may be obtained within the 30 required credits for the Ontario Secondary School Diploma (OSSD).

2. Seven sector-recognized certifications and/or training courses/programs

The SHSM in mining requires students to complete seven sector-recognized certifications and/or training courses/programs. Of these, four are compulsory and the remaining three are electives that must be chosen from the list in the following table. Note that items in the list that are capitalized are the proper names of specific certifications or training courses/programs that are appropriate for the SHSM. Items that are lowercased are names of the areas or categories within which specific certifications or training courses/programs should be selected by the school or board.

The requirements are summarized in the table below.

Four Compulsory:			
Cardiopulmonary Resuscitation (CPR) Level A	generic (i.e. not site specific) instruction about the Workplace Hazardous Materials Information System (WHMIS)	General Safety Awareness (GSA)	Standard First Aid
Three Electives from the list below:			
chainsaw safety	compass/map/global positioning system (GPS)	confined space awareness	electrical safety
elevated work platforms	fall protection	hoisting and rigging	lift truck safety
lockout/tagging	personal protective equipment – mining	powder-actuated tools	radio operator
surface miner and underground orientation	suspended access equipment	trenching safety	

3. Experiential learning and career exploration activities

Experiential learning and career exploration opportunities relevant to the sector might include:

- one-on-one observation of a co-operative education student at a placement in the mining sector (example of job twinning)
- a day-long observation of a skilled tradesperson in the mining sector (example of job shadowing)
- a one- or two-week work experience with a member of an industry association or a professional in the sector (example of work experience)
- a field trip to an industry site
- attendance at a conference or symposium related to the mining sector
- participation in a Mine Rescue competition
- attendance at an orientation to engineering day at a university to promote careers in engineering

Experiential learning activities are at NO COST.

(Exceptions may apply to out of town trips.)

Mining

4. Reach ahead experiences

Students are provided one or more reach ahead experiences – opportunities to take the next steps along their chosen pathway – as shown in the following examples:

- Apprenticeship: visiting an approved apprenticeship delivery agent in the sector
- College: interviewing a college student enrolled in a sector-specific program
- University: observing a university class in a sector-related program
- Workplace: interviewing an employee in the sector

Reach ahead activities are at NO COST.

(Exceptions may apply to out of town trips.)

5. Essential Skills and work habits and the OSP

Students will develop Essential Skills and work habits required in the sector and document them using the Ontario Skills Passport (OSP), a component of the SHSM.

Seven Key Benefits for Students

Pursuing a SHSM enables students to:

- 1 Customize their secondary school education to suit their interests and talents
- 2 Develop specialized knowledge and skills that are valued by the sector and postsecondary education institutions
- 3 Earn credits that are recognized by the sector and postsecondary education institutions
- 4 Gain sector-specific and career-relevant certification and training
- 5 Develop Essential Skills and work habits that are valued by the sector, recorded using the tools in the Ontario Skills Passport (OSP)
- 6 Identify, explore and refine their career goals and make informed decisions about their postsecondary destination
- 7 Remain flexible, with the option to shift between pathways should their goals and plans change

Exploration (Grades 9 and 10)

In addition, students considering this SHSM can be encouraged to enroll in the following courses to become better informed about careers and postsecondary options in the sector:

- **Exploring Technologies:** This Grade 9 course is recommended for all students following SHSM pathways that have a technological education focus. The course provides students with opportunities to explore a variety of technologies, including mining technology, by engaging in activities related to them.
- **Transportation Technology or Technological Design:** These courses are recommended for any Grade 10 student who is considering enrolling in a SHSM – Mining program.

Occupations in the Mining Sector

The following table provides examples of occupations in the mining sector, with corresponding National Occupation Classifications, sorted according to the type of postsecondary education or training the occupations would normally require.

Apprenticeship Training
<ul style="list-style-type: none"> • Electrician 7242 • Heavy Duty Equipment Mechanic 7312 • Industrial Mechanic 2433 • Machinist 7231
University
<ul style="list-style-type: none"> • Geologist 2113 • Mechanical Engineer 2132 • Mining Engineer 2143

***Note:** Some of the names of occupations in this table may differ slightly from the names given in the National Occupation Classification system.*

The names listed here reflect common usage by institutions and organizations in this sector in Ontario.

Mining

College

- Geological Technician 2212
- Instrumentation Technician 2243
- Mechanical Engineering Technologist 2232
- Mine Development Technologist 2212
- Mining Technician 2212

Workplace

- Cage Tender
- Control and Process Operator 9231
- Crusher Operator
- Geology Technical Assistant 2212
- Heavy Duty Equipment Operator 7421
- Mechanic's Helper 7612
- Mine Labourer 8614
- Sampler 9415
- Underground Mine Service and Support Workers 8411

Robotic Technology

REGISTRATION FORM

**Limited
Enrolment!**

Specialist High Skills Major – Mining

Personal Information: *Please print neatly and provide the information below.*

Legal Name: _____
Surname First Name Middle Initial

Current School: _____ Student ID #: _____

Home Address: _____

City/Town: _____ Postal Code: _____

Home Telephone: _____ Cell: _____ E-Mail: _____

Which pathway do you plan to pursue? *(Please check one.)*

- Apprenticeship Training Workplace College University

Are you currently enrolled as an OYAP student? Yes No

Have you taken or are you currently enrolled in any Dual Credit courses? Yes No

If yes, please provide details: Course Code _____ Course Name _____

Currently enrolled: Yes No

Completed: Yes No If yes, provide date of completion: _____

 Student's Signature

 Parent/Guardian Signature

 Print name (Student)

 Print name (Parent/Guardian)

 Date

Once you have completed the Registration Form, please submit it to the Guidance Department at your school for processing.

A member of the SHSM team will be in contact with you shortly to set up your file and get you started on your journey to success.

In accordance with the Municipal Freedom of Information and Protection of Privacy Act, personal information is being collected under the authority of the Education Act and will be used to register students in a Specialist High Skills Major. For more information, please contact the Principal.

Congratulations on choosing an exciting future!

School Contact Information: