

# Environment



*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 - Environment

Employment in the environment sector has boomed in recent years, and, according to industry experts, existing labour shortages in this sector are expected to increase as regulations to meet Canada's goals regarding climate change come into effect.

ECO Canada's *Profile of Canadian Environmental Employment 2007* defines environmental employment as work in at least one of these sectors of the economy<sup>1</sup>:

- **environmental protection** – work related to air quality, water quality, land quality, waste management, restoration and reclamation, human and environmental health and safety, environmental protection management
- **conservation and preservation of natural resources** – work related to fisheries and wildlife, forestry, agriculture, mining, energy, parks and natural reserves, natural resources management
- **environmental sustainability** – work related to education, research and development, policy and legislation, communications and policy awareness, management for sustainable development

To view further information, news articles and where this program is being offered, visit [www.SHSM.rainbowschools.ca](http://www.SHSM.rainbowschools.ca)

# Environment

## Required Components for the SHSM – Environment

The SHSM–Environment has the following five required components:

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

These credits make up the bundle:

- Four environment major credits that provide sector-specific knowledge and skills
- Three other required credits from the Ontario curriculum, in English and mathematics, in which some expectations are met through learning activities contextualized to the environment 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	Environment Major	English*	Mathematics*	Co-operative Education
Grade 11	2	1	1	2
Grade 12	2	1		
Number of credits (Total = 9)	4	2	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 environment 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)	global positioning system (GPS)	Standard First Aid
Three Electives from the list below:			
animal and plant management	automated external defibrillation (AED)	chainsaw safety	geographic information system (GIS)
habitat restoration	Hike Ontario	knots technique	leadership
Leave No Trace	life-saving	map and compass use	Ontario Hunter Education
paddling techniques	Pleasure Craft Operator	Project Wild	radio operator
search and rescue	species (e.g., fish, birds, plants, trees, small mammals) identification	stream assessment protocol	water/ice safety
watershed management	wilderness first aid		

## 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 environmental sector (example of job twinning)
- a day-long observation of an environmental employer or employee (example of job shadowing)
- a one-or two-week work experience with a member of an environmental non-governmental organization (NGO) or an employee in the environmental sector (example of work experience)
- attendance at a trade show (e.g. Toronto Sportsmen's Show, Outdoor Adventure Show), conference or workshop focusing on the environmental sector
- assisting with trail maintenance, trail cleanup
- participating in Envirothon

**Experiential learning activities are at NO COST.**

*(Exceptions may apply to out of town trips.)*



# Environment

## 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)

Teachers of Grade 9 and 10 Technology courses begin to encourage students interested in enrolling in the SHSM–Environment program by helping these students get better informed about this sector. Teachers also develop activities that address curriculum expectations in geography and science courses and let students explore environmental issues.

## Occupations in the Environment Sector

The following table provides examples of occupations in the environment 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"> <li>• Arborist 2225</li> </ul>
University
<ul style="list-style-type: none"> <li>• Air Quality Meteorologist 2114</li> <li>• Chemical Engineer 2134</li> <li>• Climatologist 2114</li> <li>• Environmental and Occupational Toxicologist 2121</li> <li>• Environmental Biologist 2121</li> <li>• Environmental Engineer 2131</li> <li>• Environmental Impact Analyst 4161</li> <li>• Environmental Planner 2153</li> <li>• Environmental Program Co-ordinator 4161</li> <li>• Forestry Professional 2122</li> <li>• Geological Engineer 2144</li> <li>• Geologist and Geochemist 2113</li> <li>• Interpretive Naturalist 2121</li> <li>• Landscape Architects 2152</li> <li>• Meteorologist 2114</li> <li>• Urban and Land Use Planners 2153</li> <li>• Waste Diversion Consultant 4161</li> </ul>

**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.

# Environment

## Sustainable Agriculture

### College

- Aquaculture Operator and Manager 8257
- Biological Technologist or Biological Technician 2221
- Conservation Officer or Fishery Officer 2224
- Environmental Technician 2231
- Field Technician and Air Pollution 2231
- Forest Ecologist 2121
- Forestry Technologist/Technician 2223
- Geological and Mineral Technologist/Technician 2212
- Habitat Management Technician 2221
- Hatchery or Fisheries Technician 2221
- Mapping and Related Technologist/Technician 2255
- Quality Control and Chemical Engineering Technologist 2211
- Silviculture and Forestry Workers 8422
- Soil Testing Technologist 2231
- Technician and Pollution Control 2231

### Workplace

- Canoeing Guide 6442
- Fishing Guide 6442
- Hunting Guide 6442
- Landscaping and Grounds Maintenance Workers 8612
- Outdoor Sport and Recreation Guide 6442
- Outfitter 6442
- Recreation Program Leader 5254
- Recycled Paper Handler 7452
- Silviculture and Forestry Workers 8422
- Wastewater Treatment Plant Operator 9424

# REGISTRATION FORM

**Limited  
Enrolment!**

## Specialist High Skills Major – Environment

**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:

**SHSM.rainbowschools.ca**