

ENERGY & MINES

SECTION H: LINKAGES/TRANSITIONS

This section of the Guide has been designed to provide an overview of linkages and transitions of CTS modules with a number of organizations. The charts and information presented in this section will assist CTS students and teachers in understanding the potential application of CTS modules as students move into the workplace.

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LINKAGES/TRANSITIONS

LINKAGES

With Other CTS Strands

The Energy and Mines strand provides opportunities for students to develop competencies in one or more sectors of an energy or mineral industry, including:

- exploration
- recovery and production
- refining and manufacturing
- marketing
- energy design and conservation
- environmental management.

Each industry sector (and area of course emphasis) links with competencies that are developed in other CTS strands. To facilitate and strengthen these linkages, CTS courses may be designed by combining Energy and Mines modules with modules from other CTS strands (e.g., Agriculture, Career Transitions, Community Health, Design Studies, Electro-Technologies, Fabrication Studies, Forestry, Legal Studies, Management and Marketing, Mechanics and Wildlife).

Linkages of particular relevance to the design of CTS courses in Energy and Mines include:

Strand	Themes and/or Modules
Career Transitions	Project modules provide opportunities for learning beyond the expectations of given Energy and Mines modules. Practicum modules enable students to work toward obtaining credentials recognized in the workplace/ community. Safety modules provide opportunities to address safety skills relevant to specific sectors of an energy or mineral industry.
Community Health	Modules within the “Injury Prevention” theme link with a range of workplace competencies developed within the Energy and Mines strand.

Strand	Themes and/or Modules
Design Studies	Design principles and technical drawing skills have a range of applications in the design/construction of energy systems.
Electro-Technologies	Modules within the “Power Systems” and “Computer Logic” themes have application in industry-based exploration, recovery, production and refining operations (e.g., maintenance and use of electrical systems).
Legal Studies	Modules within the “Societal Contexts” theme (e.g., Environmental Law, Dispute Resolution, Landmark Decisions) can be contextualized within an energy or mineral industry.
Mechanics	Modules within the “Propulsion Systems” and “Guidance and Control Systems” themes have application in industry-based exploration, recovery, production and refining operations (e.g., maintenance and use of power driven machines).

It is important to note that the project, practicum and safety modules in Career Transitions may be combined with Energy and Mines modules to provide opportunities for students to:

- acquire safety competencies and credentials
- develop specific workplace skills
- expand upon a topic in a module or theme
- complete a design and/or construction project.

Additional information regarding connections with other CTS strands is provided in “Connections with Other CTS Strands.”

Sample courses in Energy and Mines that include modules from other CTS strands are provided in “Energy and Mines in Junior High” and “Energy and Mines in Senior High.”

With Other Secondary Programs

The Energy and Mines strand has many links with other core and complementary subject areas across the curriculum. For example, many of the modules in Energy and Mines link with the junior and senior high science programs, and provide opportunities for students to extend and apply related knowledge and skills in practical ways.

Core and complementary course linkages of particular relevance to CTS courses in Energy and Mines include:

Course/ Program Area	Linkage/Connection
Language Arts	Application of the research process; development of reporting and oral/multimedia presentation skills within a range of industry contexts.
Mathematics	Application of number operations, variables and equations, measurement, data analysis, chance and uncertainty within a range of industry contexts (e.g., exploration, recovery and production, refining, energy design).
Science	Use of observation and experimentation; knowledge and theory of relevant topics in earth science, chemistry and physics; analysis of relationships among science, technology, society and the environment.
Social Studies	Knowledge of the impact of social, economic and environmental perspectives on energy/mineral development; issue analysis, negotiation, debate and environmental citizenship within a range of industry contexts.
CALM	Awareness of career opportunities and trends; career research and preparation.

Additional information regarding connections between Energy and Mines modules and other core and complementary subject areas is provided in “Energy & Mines: Connections Across the Curriculum.”

TRANSITIONS

To the Workplace

Intermediate and advanced modules are designed to develop knowledge, skills and attitudes that provide transitions to occupations in Alberta’s energy and mineral industries. Some career sectors welcome individuals who have basic skills and are prepared to learn through further training from the employer.

The National Occupational Classification (NOC) chart in this section indicates occupations for which the Energy and Mines strand provides a foundation (see “Energy & Mines: Related Occupations”).

To Related Post-secondary Programs

Advanced level modules will assist students to make plans regarding further studies in related programs at post-secondary levels. These modules provide desirable background and skills for entry into related industrial and environmental programs at public and private colleges, technical institutes, universities and vocational colleges in Alberta.

A summary of industry-related programs currently offered at post-secondary institutions in Alberta is provided in Energy & Mines: Summary of Related Post-Secondary Programs.

A number of articulation agreements have been established with post-secondary institutions in Alberta. These agreements provide preferred entrance and/or advanced standing/credit for CTS students who have successfully completed designated modules. A summary of articulation agreements in place that involve CTS modules is available through Alberta Education’s web site at

<<http://ednet.edc.gov.ab.ca>>. For further information regarding particular articulation agreements, contact the post-secondary institution and/or review its calendar.

Of particular relevance to courses in Energy and Mines is the Southern Alberta Institute of Technology (SAIT) Open Learning Instructional System. Developed by its Energy and Natural Resources Department, and referred to as SOLIS, the program offers an extensive range of modularized learning packages that provide training in:

- occupational health and safety
- industrial environmental awareness
- power engineering technology.

SOLIS modules can be used in traditional classroom settings or for distance learning, and provide an effective way to meet the needs of individual students. In addition to developing competencies that are consistent with standards established by the oil, gas and petrochemical industries, students who successfully complete one or more SOLIS modules will be given advanced credit in programs that use these modules at SAIT.

CREDENTIALLING

Students may earn partial or complete credentials recognized in the workplace and/or post-secondary institutions by demonstrating specified competencies within the CTS curriculum. The Energy and Mines strand, in conjunction with modules from the Career Transitions strand, provides opportunities for students to develop competencies that link with a number of credentialling programs.

Of particular significance are credentials available through:

- First Aid certificate courses
- Petroleum Industry Training Service (PITS) programs
- provincially and federally established occupational health and safety programs.

Teachers may wish to explore opportunities for linking courses in Energy and Mines with these and/or other credentialling programs. A partial list of credentialling opportunities relevant to CTS courses in Energy and Mines is provided in “Credentialling Opportunities in Energy and Mines.”

Further information regarding these and other credentialling opportunities available to CTS students is provided in the *Career & Technology Studies Manual for Administrators, Counsellors and Teachers* (see Appendix 14: Credentialling Opportunities in CTS), and also through Alberta Education’s web site at <<http://ednet.edc.gov.ab.ca>>.

LINKAGES – Energy & Mines: Connections With Other CTS Strands

Energy and Mines Modules	Other CTS Strands																					
	Agriculture	Career Transitions	Communication Technology	Community Health	Construction Technologies	Cosmetology Studies	Design Studies	Electro Technologies	Enterprise and Innovation	Fabrication Studies	Fashion Studies	Financial Management	Foods	Forestry	Information Processing	Legal Studies	Logistics	Management and Marketing	Mechanics	Tourism Studies	Wildlife	
Theme: Social and Cultural Perspectives																						
ENM1010: Overview of Alberta Geology																						
ENM2010: Managing Alberta's Resources																						
ENM3010: Energy & the Environment																						
Theme: Technology and Applications																						
ENM1020: Nonrenewable Resources																						
ENM1050: Renewable Resources																						
ENM1060: Consumer Products & Services																						
ENM2020: Conventional Oil/Gas 1																						
ENM2030: Oil Sands/Heavy Oil/Coal 1																						
ENM2040: Metals/Nonmetals 1																						
ENM2050: Renewable Energy Technology																						
ENM2060: Refining Hydrocarbons																						
EnM2070: Refining Rocks & Minerals																						
EnM2080: Supply & Distribution																						
E&M3020: Conventional Oil/Gas 2																						
ENM3030: Oil Sands/Heavy Oil/Coal 2																						
ENM3040: Metals/Nonmetals 2																						
ENM3050: Sustainable Energy																						
ENM3060: Petrochemicals																						
ENM3070: Industrial Materials																						
ENM3080: Market Basics & Trends																						
Theme: Management and Conservation																						
ENM1090: Fundamentals of Recycling																						
ENM1100: Conservation Challenge																						
ENM2090: Energy Designs/Systems 1																						
ENM2100: Environmental Safety																						
ENM3090: Energy Designs/Systems 2																						
ENM3100: Integrated Resource Management																						

Provides many direct links with competencies in this strand. Students will reinforce, extend and apply a substantial number of knowledge and/or skill components in practical situations.



Provides some links with competencies developed in this strand, usually through the application of related technologies and/or processes.



LINKAGES – Energy & Mines in Junior High

Course Emphasis	Energy & Mines Modules	Forestry Modules	Fabrication Studies Modules	Mechanics Modules
Conservation and Management (3 modules)	Fundamentals of Recycling <i>ENM1090</i>	Forests Forever 1 <i>FOR1100</i>		
	Conservation Challenge <i>ENM1100</i>			
Conventional Exploration and Recovery (6 modules)	Overview of Alberta Geology <i>ENM1010</i>	Mapping & Aerial Photos <i>FOR1050</i>		Mechanical Systems <i>MEC1130</i>
	Nonrenewable Resources <i>ENM1020</i>			
	Conventional Oil/Gas 1 <i>ENM2020</i>			
	Supply & Distribution <i>ENM2080</i>			
Refining and Manufacturing Processes (4 modules)	Consumer Products & Services <i>ENM1060</i>		Production Systems <i>FAB1160</i>	
	Refining Hydrocarbons <i>ENM2060</i>			
	Environmental Safety <i>ENM2100</i>			
Renewable Energy (5 modules)	Overview of Alberta Geology <i>ENM1010</i>		Basic Tools & Materials <i>CON1010</i>	Mechanical Systems <i>MEC1130</i>
	Renewable Resources <i>ENM1050</i>			
	Renewable Energy Technology <i>ENM2050</i>			

LINKAGES – Energy & Mines in Senior High

Course Emphasis	Energy and Mines Modules	Forestry/Design Modules	Fabrication/ Mechanics Modules	Career Transitions Modules
<p>Conventional Exploration (3 credits)</p> <p>Prerequisite: None</p>	<p>Overview of Alberta Geology <i>ENM1010</i></p> <p>Conventional Oil/Gas 1 <i>ENM2020</i></p>	<p>Mapping & Aerial Photos <i>FOR1050</i></p>		
<p>Conventional Recovery and Production (5 credits)</p> <p>Prerequisite: Conventional Exploration</p>	<p>Managing Alberta's Resources <i>ENM2010</i></p> <p>Conventional Oil/Gas 2 <i>ENM3020</i></p> <p>Supply & Distribution <i>ENM2080</i></p> <p>Environmental Safety <i>ENM2100</i></p>			<p>Workplace Safety (Practices) <i>CTR2210</i></p>
<p>Mineral Refining and Manufacturing (5 credits)</p> <p>Prerequisite: None</p>	<p>Refining Rocks & Minerals <i>ENM2070</i></p> <p>Industrial Materials <i>ENM3070</i></p> <p>Market Basics & Trends <i>ENM3080</i></p>		<p>Production Systems <i>FAB1160</i></p> <p>Mechanical Systems <i>MEC1130</i></p>	
<p>Energy Design and Conservation (3 credits)</p> <p>Prerequisite: None</p>	<p>Energy Designs/ Systems 1 <i>ENM2090</i></p> <p>Energy Designs/ Systems 2 <i>ENM3090</i></p>	<p>2-D Design Fundamentals <i>DES1030</i></p>		
<p>Environmental Management (6 credits)</p> <p>Prerequisite: None</p>	<p>Managing Alberta's Resources <i>ENM2010</i></p> <p>Environmental Safety <i>ENM2100</i></p> <p>Integrated Resource Management <i>ENM3100</i></p>	<p>Users in the Forest <i>FOR2120</i></p>		<p>Project 2A <i>CTR2110</i></p> <p>Project 2B <i>CTR2120</i></p>

LINKAGES – Energy & Mines: Connections Across the Curriculum

Energy and Mines Modules	Across the Curriculum																		
	Junior High							Senior High											
	Language Arts	Social Studies	Mathematics	Science	Health & PLS	Physical Education	Fine Arts	English	Social Studies	Mathematics	Science (General)	Biology	Chemistry	Physics	CALM	Physical Education	Fine Arts	Social Sciences	Second Language
Theme: Social & Cultural Perspectives																			
ENM1010: Overview of Alberta Geology				■										■	■				
ENM2010: Managing Alberta's Resources	■	■						■	■										
ENM3010: Energy & the Environment	■	■		■				■	■		■							■	
Theme: Technology & Applications																			
ENM1020: Nonrenewable Resources		■		■					■		■		■	■					
ENM1050: Renewable Resources		■		■					■		■		■	■					
ENM1060: Consumer Products & Services		■		■					■		■		■	■					
ENM2020: Conventional Oil/Gas 1		■		■					■		■		■	■					
ENM2030: Oil Sands/Heavy Oil/Coal 1		■		■					■		■		■	■					
ENM2040: Metals/Nonmetals 1		■		■					■		■		■	■					
ENM2050: Renewable Energy Technology		■		■					■		■		■	■					
ENM2060: Refining Hydrocarbons		■		■					■		■		■	■					
EnM2070: Refining Rocks & Minerals		■		■					■		■		■	■					
EnM2080: Supply & Distribution	■	■						■	■										
E&M3020: Conventional Oil/Gas 2		■		■					■		■		■	■					
ENM3030: Oil Sands/Heavy Oil/Coal 2		■		■					■		■		■	■					
ENM3040: Metals/Nonmetals 2		■		■					■		■		■	■					
ENM3050: Sustainable Energy	■	■						■	■										
ENM3060: Petrochemicals		■		■					■		■		■	■					
ENM3070: Industrial Materials		■		■					■		■		■	■					
ENM3080: Market Basics & Trends	■	■						■	■									■	
Theme: Management & Conservation																			
ENM1090: Fundamentals of Recycling		■		■					■		■		■	■					
ENM1100: Conservation Challenge	■	■							■		■		■	■					
ENM2090: Energy Designs/Systems 1	■	■		■					■		■		■	■					
ENM2100: Environmental Safety	■	■		■					■		■		■	■					
ENM3090: Energy Designs/Systems 2	■	■		■					■		■		■	■					
ENM3100: Integrated Resource Management	■	■							■		■		■	■				■	

■ Provides many direct links with course content. Students will reinforce, extend and apply a substantial number of knowledge and/or skill components in practical contexts.

▨ Provides some links with course content, usually through the application of related technologies and/or processes.

TRANSITIONS – Energy & Mines: Related Occupations

Information for this chart was obtained from the National Occupational Classification (NOC) descriptions.

Educational Requirements:

D: High School Education

B: College or Vocational Education

C: Apprenticeship

A: University

STRAND-RELATED OCCUPATIONS		EDUCATION REQUIREMENTS			
Occupational Profile	NOC#	D	C	B	A
Bitumen Extraction Plant Operator	9232	✓			
Bitumen Upgrading Plant Operator	?	✓			
Boilermaker	7262		✓		
Central Control and Process Operators, Mineral and Metal Processing	9231	✓			
Commercial Diver	7382	✓			
Drillers and Blasters – Surface Mining, Quarrying and Construction	7372	✓			
Drilling Rig Crews and Service Rig Crews	8232	✓			
Environmental Auditor	2263				✓
Environmental Education Specialist	4169				✓
Environmental Engineer	2148/2263				✓
Field Production Operator	8232			✓	
Foundry Worker	9412	✓			
Gas Pipeline Operator	9232	✓			
Gas Plant Operator	9232			✓	
Geologists, Geochemists and Geophysicists	2113				✓
Geological Engineer	2144				✓
Geological and Mineral Technologists and Technicians	2212			✓	
Hazardous Waste Management Technician	2263			✓	
Inspectors and Testers, Mineral and Metal Processing	9415	✓			
Inspectors, Public and Environmental Health and Occupational Health and Safety	2263				✓
Labourers in Chemical Products Processing and Utilities	9613	✓			
Labourers in Mineral and Metal Processing	9611	✓			
Land Agent	1221			✓	
Machine Operators, Mineral and Metal Processing	9411	✓			
Mechanical Engineer	2132				✓
Manufacturing Manager	2141			✓	✓
Metallurgical and Materials Engineers	2142				✓
Mine Labourer	8614	✓			
Mining Engineer	2143				✓
Mineral Engineering Technologist	2212			✓	
Mining Equipment Operator	8231	✓			
Nondestructive Testers and Inspectors	2261	✓		✓	✓

TRANSITIONS – Energy & Mines: Related Occupations (continued)

STRAND-RELATED OCCUPATIONS		EDUCATION REQUIREMENTS			
Occupational Profile	NOC#	D	C	B	A
Nuclear Engineering Technician	2232			✓	
Nuclear Engineer	2132				✓
Oil and Gas Well Drillers, Servicers, Testers and Related Workers	8412	✓			
Oil and Gas Drilling, Servicing and Related Labourers	8615	✓			
Oil and Gas Well Drilling Workers and Services Operators	8412	✓			
Oil Pipeline Operator	8232	✓			
Oil Sands Mining Occupations	8411?	✓			
Petrochemical Engineering Technologist	2211			✓	
Petroleum Engineer	2145				✓
Petroleum Engineering Technologist	2212			✓	
Petroleum, Gas and Chemical Process Operators	9232	✓			
Pollution Control Technician	2231			✓	
Primary Production Managers (except Agriculture)	0811				✓
Refinery/Upgrader Process Operators	9231			✓	
Seismic Crew	8615	✓		✓	
Specialized Oil Field Service Occupations	8232	✓			
Supervisors, Mineral and Metal Processing	9211	✓			
Supervisors, Mining and Quarrying	8221	✓		✓	✓
Supervisors, Oil and Gas Drilling and Services	8222	✓		✓	
Supervisors, Petroleum, Gas and Chemical Processing and Utilities	9212	✓			
Surveying Engineer	2131				✓
Surveying Technologist	2254			✓	
Underground Mine Service and Support Workers	8231	✓			
Underground Production and Development Miners	8231	✓			
Utilities Manager	091				✓
Water and Waste Plan Operators	9424	✓		✓	
Water Well Driller	7374	✓			
Waterworks and Gas Maintenance Workers	7442	✓			
Well Service Pump Equipment Operator Crews	8412	✓			
Wireline Worker	8232	✓		✓	✓

TRANSITIONS – Energy & Mines: Summary of Post-secondary Programs

	PUBLIC COLLEGES										APPRENTICESHIP TRADE	PRIVATE COLLEGES					TECH. INST.	UNIVERSITIES				VOCATIONAL COLLEGES						
	Alberta College of Art & Design	Fairview College	Grande Prairie Regional College	Grant MacEwan Community College	Keyano College	Lakeland College	Lethbridge Community College	Medicine Hat College	Mount Royal College	Olds College		Red Deer College	Augustana University College	Canadian Union College	Concordia College	King's University College, The		North American Baptist College	Northern Alberta Institute of Technology	Southern Alberta Institute of Technology	Banff Centre	Athabasca University	University of Alberta	University of Calgary	University of Lethbridge	AVC - Calgary	AVC - Edmonton	AVC - Lac La Biche
Sheet Metal Worker											4y																	
Driver Training (including Bus Operator, Commercial, Heavy Transport, Tractor-Trailer, and Transport Truck)					VC																						V	V
Communication Electrician											4y																	
Electrical Rewind Mechanic											4y																	
Electrician (including Journeyman Updating, and Pre-Employment)		V			8w	C				30w	4y																C(12w)	
Other Electrical Trades (including Electronic Technician, Instrument Mechanic, and Power System Electrician)											4y							28w										
Power Lineman											4y																	
Boilermaker											3y																	
Heavy Equipment Technicians (including Diesel Mechanics, Industrial Heavy Equipment Technicians/Technology, Journeyman Updating and Pre-Employment)		VC			8w	C(16w)	C			30w	4y						CD	C										
Automotive Service Technicians (including Automotives/Automotive Service Technology, Gasoline Engine Performance Analysis and Pre-Employment)		C			8w	C(12w)	D	8w		D	4y						C	VD								C(16w)		
Recreation Vehicle Mechanic											3y																	
Small Engine/Light Industrial Mechanic		C																CD								C(20w)		
Structural Steel and Plate Fitter											3y																	
Welder (including First Class to A & B Pressure, Pre-Employment, Upgrading to Journeyman)		V			8w	C(12w)	8w				3y						VC	D						V		C(22w)		
Power Engineering (including 2nd, 3rd, and 4th Class, and Plant and Process Operations)		VC	VC		V	V											VC	VC	D							V		
Heavy Oil Operations Technician						C																						

TRANSITIONS – Energy & Mines: Summary of Post-secondary Programs (continued)

	PUBLIC COLLEGES										APPRENTICESHIP TRADE	PRIVATE COLLEGES					TECH. INST.	UNIVERSITIES					VOCATIONAL COLLEGES					
	Alberta College of Art & Design	Fairview College	Grande Prairie Regional College	Grant MacEwan Community College	Keyano College	Lakeland College	Lethbridge Community College	Medicine Hat College	Mount Royal College	Olds College		Red Deer College	Augustana University College	Canadian Union College	Concordia College	King's University College, The		North American Baptist College	Northern Alberta Institute of Technology	Southern Alberta Institute of Technology	Banff Centre	Athabasca University	University of Alberta	University of Calgary	University of Lethbridge	AVC - Calgary	AVC - Edmonton	AVC - Lac La Biche
Land Agent/Petroleum Land Assistant																												
Petroleum Engineering Fundamentals																												
Safety Resources (including TDG, and WHMIS)						V																						
Gas Fitter											3y																	
Plumber (including Pre-Employment)											4y																	C
Sprinkler System Installer											4y																	
Steamfitter-Pipefitter (including Upgrading)											4y					V												
Water Well Driller											2y																	
Power Engineering (including 2nd, 3rd, and 4th Class, and Plant and Process Operations)		VC	VC		V	V											VC	VC D									V	
Environmental Science (various specializations in Conservation & Reclamation, Environmental Monitoring & Conservation Enforcement, Fish & Wildlife, Parks & Recreation, and Renewable Resource/Watershed Management)					1t	D	CD			CD				B2t	B	D		V			B	CM	B				C(34w)	
Environmental Technology/Water & Wastewater Technician										CD							C											C
Petroleum/Mineral Resource/Land Management										D								V	V									

CODES: B Bachelor's Degree D Diploma (2 years) w weeks
M Master's Degree V Varies m months
Ph.D. Doctoral Degree 1t One-year transfer y years
C Certificate (1 year or less) 2t Two-year transfer

*Information adapted from "It's About Time: To Start Thinking About Your Future," Advanced Education and Career Development, 1995.

CREDENTIALLING - *Credentiailling Opportunities in Energy and Mines*

The following credentialling opportunities link with modules in the Energy and Mines strand. Further information (including current contacts) for these and other credentialling opportunities available to CTS students is available through Alberta Education's web site at <<http://ednet.edc.gov.ab.ca>>.

Credential/ Certificate	Training/ Credentialling Agency	Related CTS Strands/Modules	Program Description
Hydrogen Sulphide Alive	Petroleum Industry Training Service (PITS)	ENM: Modules within the "Technology and Applications" theme CTR3040-3080: Practicum Modules CTR2210: Workplace Safety CTR3210: Safety Management Systems	An industry-based credentialling program developed to prevent hydrogen sulphide injuries and fatalities. Deals with basic characteristics of the gas, use of self-contained breathing apparatus, gas-testing devices and rescue techniques. Course addresses both theoretical and practical applications.
The Petroleum Industry in Canada	Petroleum Industry Training Service (PITS)	ENM: Modules within the "Technology and Applications" theme CTR3040-3080: Practicum Modules	An industry-based credentialling program that provides a comprehensive overview of the petroleum industry. Topics addressed include geological and geophysical exploration, land acquisition, drilling systems and methods, well evaluation, completion and production, enhanced recovery, pipelines, oil and gas processing and marketing.
General Entry Level Safety (GELS)	Petroleum Industry Training Service (PITS)	ENM: Modules within the "Technology and Applications" theme CTR3040-3080: Practicum Modules CTR2210: Workplace Safety CTR3210: Safety Management Systems	An industry-based credentialling program developed to ensure worker safety in the petroleum industry. Deals with basic safety, personal protective equipment, back injury prevention, OH & S regulations, hazard identification and elimination, and hand tool safety. Program is available in a self-study video/workbook format.
All Terrain Vehicle Rider	Alberta Safety Council	ENM: Modules within the "Technology and Applications" theme CTR3040-3080: Practicum Modules	An industry-based credentialling program that offers certification in ATV use for recreational or industrial purposes. Deals with pre-ride inspection, range signals, rules and warm up exercises, riding strategies, circles, turns, stops and traversing hills.

TRANSITIONS – *Credentiailling Opportunities in Energy & Mines* (continued)

Credential/ Certificate	Training/ Credentiailling Agency	Related CTS Strands/Modules	Program Description
Transportation of Dangerous Goods (TDG)	Contact Alberta Transportation and Utilities for information regarding approved training/ credentiailling agencies.	ENM: Modules within the “Technology and Applications” theme CTR3040-3080: Practicum Modules CTR2210: Workplace Safety	A credentiailling program that addresses standards established by the provincial and federal governments for the transportation and handling of dangerous goods. Deals with shipper, receiver and carrier responsibilities, classifications of dangerous goods, marketing and labelling, documentation and reporting responsibilities.
Workplace Hazardous Material Information System (WHMIS)	Contact Alberta Labour (Occupational Health and Safety) for information regarding approved training/ credentiailling agencies.	ENM: Modules within the “Technology and Applications” theme CTR3040-3080: Practicum Modules CTR2210: Workplace Safety	A credentiailling program that addresses standards established by the provincial and federal governments for the safe use of hazardous materials in the workplace. Develops strategies that will enable the worker to obtain information necessary to protect self, other employees, the premises and the environment from the effects of contamination by hazardous chemicals.

