

# ELECTRO-TECHNOLOGIES

## SECTION H: LINKAGES/TRANSITIONS

This section of the Guide has been designed to provide an overview of linkages and transitions of CTS courses 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 courses as students move into the workplace.

### TABLE OF CONTENTS

#### LINKAGES

With Basic Competencies.....	H.3
With Other CTS Strands.....	H.3
With Other Secondary Programs.....	H.4
With Practical Arts Courses .....	H.4

#### TRANSITIONS

To the Community/Workplace .....	H.4
To Related Post-secondary Programs.....	H.5

CREDENTIALLING .....	H.5
----------------------	-----

#### Charts:

Electro-Technologies: Sample CTR Project Course.....	H.6
Electro-Technologies: Connections with Other CTS Strands .....	H.8
Electro-Technologies: Connections Across the Curriculum.....	H.9
Electro-Technologies: Junior High School Course Clusters .....	H.10
Electro-Technologies: Scope and Sequence .....	H.11
Electro-Technologies: Extended Scope and Sequence .....	H.12
Electro-Technologies: Correlations to Junior/Senior High School Practical Arts Courses .....	H.13
Electro-Technologies: Related Occupations.....	H.14
Electro-Technologies: Summary of Related Post-secondary Programs .....	H.15
Electro-Technologies: Credentialling Opportunities .....	H.17



## LINKAGES/TRANSITIONS

There are many opportunities for students in Electro-Technologies to build linkages among CTS strands and across other subject areas, including core and complementary programs. In addition to making linkages across the curriculum, making connections between what the students have already learned in other settings (e.g., home, community and workplace) can also be achieved through this strand.

### LINKAGES

#### With Basic Competencies

The Electro-Technologies strand supports the development and integration of the basic competencies related to personal and resource

management, problem solving, safe work practices and social interactions throughout the introductory, intermediate and advanced courses. It is important that students develop these competencies because success in the workplace often depends more on these skills than on many of the technical or academic skills they possess.

#### With Other CTS Strands

Electro-Technologies complements courses from a number of other strands.

The following chart represents possible linkages with other strands that may be of interest to Electro-Technologies students:

Strand	Course	Linkage
Career Transitions	Safety courses	used in conjunction with safety components in Electro-Technologies.
	Project courses	use when student wants to increase proficiency or enhance projects that are beyond course expectations.
Community Health	First Aid course	provides opportunities for first aid certification.
	Volunteer course	used where student is prepared to volunteer time using Electro-Technologies competencies.
Enterprise and Innovation	Business ventures	identifying opportunities for business ventures.
Construction Technologies	Electrical systems	use in conjunction with branch wiring and repair/maintenance of electrical/electronic equipment.
Design Studies	Design courses, including CAD	courses applied when student is designing Electro-Technologies projects.
Fabrication Studies	Welding, sheet metal fabrication, machining	knowledge/skills used in designing and constructing projects using these processes.
Information Processing	Computer/software use, programming, expert systems	broaden the knowledge and skills related to computer technologies.
Mechanics	Electricity/Electronics related courses	apply electronic knowledge and skills to vehicle electrical/electronic systems.

Note that project, practicum and safety courses from Career Transitions strand may be combined with courses from Electro-Technologies strand to provide increased opportunities for students to develop expertise and refine their competencies in a particular area of study, such as:

- acquiring safety skills and credentials
- enhancing specific electronic and electrical skills
- completing activities beyond the constraints of a course; e.g., Digital Technology Application, Analog Communication III, Amplifiers, Robotics projects
- preparing for apprenticeship linkages by improving proficiencies in areas that require upgrading and development.

For a sample of a CTR Project course that has been developed as an extension to an existing course, refer to pages H.4 to H.5.

Linkages between Electro-Technologies courses and other strands and across the curriculum have also been identified. Refer to “Electro-Technologies: Connections With Other CTS Strands,” and “Electro-Technologies Connections Across the Curriculum.”

In addition, courses may be aligned according to the course emphasis and themes that run between courses and strands as outlined in “Electro-Technologies: Junior High School Course Clusters.”

For a summary of courses that can be combined with Electro-Technologies from other strands, refer to “Electro-Technologies: Extended Scope and Sequence.”

### With Other Secondary Programs

For learnings to have relevance, it is important to integrate core and complementary programs with Electro-Technologies. Many of the Electro-Technologies competencies apply and reinforce learnings in other areas.

The following chart provides specific examples of linkages between Electro-Technologies and other secondary programs:

Subject	Linkage
CALM	Career assessment and preparation.
Drama	Recording, sound system, lighting system, design, set-up and operation.
Language Arts	Technical report writing, report presentations, resume writing, interviews, portfolio development.
Mathematics	Basic mathematics, percentages, ratio/proportion, square roots, algebra, logarithms, trigonometry, vectors.
Science/Physics	Electricity, motors, energy consumption, matter/energy in chemical change, electric forces and fields, magnetic forces and fields, waves and particles.

### With Practical Arts Courses

Courses in the Electro-Technologies strand replace the existing junior and senior high practical arts programs. A detailed correlation of the Electro-Technologies strand courses to the related practical arts courses can be found in this section (see “Electro-Technologies: Correlations to Junior/Senior High School Practical Arts Programs”).

## TRANSITIONS

### To the Community/Workplace

The Electro-Technologies program recognizes the aspect of common electrical/electronic content/skills that exist for many of the occupations in this field. Intermediate and advanced courses assist students in developing knowledge, skills and attitudes required to make the transition into occupations in Alberta’s electrical/electronic industries. Some career sectors welcome students with a common core background and are equipped for further training on the job.

Students are advised to consider Work Experience, Work Study or Cooperative Education programs. These programs provide relevance and practicality to classroom learning and make linkages with labour, business and industry. Students will also be provided with a clearer understanding of expectations in the Electro-Technologies field.

In addition, information from the National Occupational Classification (NOC) regarding occupations in related areas that can be accessed upon completion of high school is provided in this section (see “Electro-Technologies: Related Occupations”).

### **To Related Post-secondary Programs**

The themes and courses offered in Electro-Technologies are consistent with many of the pre-employment and apprenticeship courses now being offered by post-secondary institutions.

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 courses. A current summary of articulation agreements in place that involve CTS courses is available through Alberta Learning’s web site <<http://ednet.edc.gov.ab.ca>>. For further information regarding particular articulation agreements, contact the post-secondary institution and/or review its calendar.

CTS courses in Electro-Technologies may also link with one or more of Alberta’s Apprenticeship Training Programs; e.g., Electrician, Electronic Technician. Students who are employed as an apprentice in one of these trade areas and have successfully completed designated CTS courses may also qualify, upon the recommendation of their employer, for a portion of the in-school training component. A summary of articulation agreements established for specific apprenticeship trades (including a correlation to CTS courses) is available through Alberta Learning’s web site. Further information regarding apprenticeship linkages can be obtained by contacting Alberta

Alberta Learning, Apprenticeship and Industry Training Division.

An outline of post-secondary institutions in Alberta currently offering programs related to Electro-Technologies can be found in this section (see “Electro-Technologies: Summary of Related Post-secondary Programs”).

## **CREDENTIALLING**

Students may earn credentials recognized in the workplace and/or post-secondary institutions by demonstrating specified competencies within the CTS curriculum. The Electro-Technologies strand provides opportunities for students to develop competencies related to:

- Explosive Actuated Tools
- Construction Safety Training
- Emergency First Aid
- CPR, Level C
- Workplace Hazardous Materials Information System
- Transportation of Dangerous Goods.

Further information regarding credentialling in Electro-Technologies is provided in this section (see “Credentialling Opportunities in Electro-Technologies”).

**LINKAGE - Electro-Technologies: Sample CTR Project Course**

**COURSE CTR2110: PROJECT 2A – RESIDENTIAL WIRING**

<b>Level:</b>	Intermediate
<b>Theme:</b>	Career Extensions
<b>Prerequisite:</b>	ELT2030 Branch Circuit Wiring (Recommended)
<b>Description:</b>	Students, through projects, extend and enhance competencies developed in the Career Transitions strand or other Career and Technology Studies strands to contexts that are personally relevant.

**Parameters:** Students should have access to basic hand tools, multimeter, related resources and supplies and must have access to instruction from an individual with journeyman qualifications when project is hardwired to main power source and for permanent use.

Through projects, students extend and enhance competencies developed in Career Transitions or other CTS strands to contexts that are personally relevant.

**Curriculum and Assessment Standards**

General Outcomes	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>propose, manage and assess a project</li> <li>meet goals as defined within the project plan</li> </ul>	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> <li>successful completion of project, including project:                             <ul style="list-style-type: none"> <li>proposal</li> <li>management</li> <li>completion</li> <li>assessment</li> <li>presentation.</li> </ul> </li> </ul> <p><i>Assessment Tool</i> <i>CTR Project: Career Extensions Courses</i></p>	<p>20</p> <p>20</p> <p>20</p> <p>20</p> <p>20</p>
<ul style="list-style-type: none"> <li>demonstrate basic competencies.</li> </ul>	<ul style="list-style-type: none"> <li>observations of individual effort and interpersonal interaction during the learning process.</li> </ul> <p><i>Assessment Tool</i> <i>Basic Competencies Reference Guide and any assessment tools noted above</i></p>	<p>Integrated throughout</p>

**LINKAGE - Electro-Technologies: Sample CTR Project Course**

**COURSE CTR2110: PROJECT 2A – RESIDENTIAL WIRING (continued)**

Concept	Specific Outcomes	Notes
Project Definition	<p><i>The student should:</i></p> <ul style="list-style-type: none"> <li>• identify a project</li> <li>• outline related issues and implications</li> <li>• prepare a project plan:               <ul style="list-style-type: none"> <li>– clarify the purposes of the project</li> <li>– define project deliverables</li> <li>– specify project timelines; e.g., key decision points, consultation points</li> <li>– define resource needs; e.g., materials, costs, support network</li> </ul> </li> <li>• identify and comply with all related health and safety standards</li> <li>• define assessment standards (indicators for success)</li> <li>• present project proposal</li> <li>• obtain necessary approvals.</li> </ul>	<p>Develop skills necessary to install:</p> <ul style="list-style-type: none"> <li>– service panel</li> <li>– receptacles including GFI circuit</li> <li>– lighting fixture</li> <li>– switches including three-way</li> <li>– low voltage cable and units including door bell, TV cable, telephone</li> <li>– remote control circuit (e.g., garage door).</li> </ul>
Project Management	<ul style="list-style-type: none"> <li>• proceed with the project as outlined by the project plan</li> <li>• monitor project and make necessary adjustments to project plan.</li> </ul>	<p>Project monitoring should include regular progress checks and consultation with teacher and others.</p>
Project Presentation and Assessment	<ul style="list-style-type: none"> <li>• present the project:               <ul style="list-style-type: none"> <li>– outcomes attained</li> <li>– relationship to goals set originally</li> </ul> </li> <li>• assess the project:               <ul style="list-style-type: none"> <li>– processes and strategies used</li> <li>– recommendations for how the project could have been improved.</li> </ul> </li> </ul>	<p>Project presentation could be in print, a display of the project or a description of the processes undertaken.</p> <p>Student assessment could be print, verbal, and/or audio visual.</p>

# LINKAGES – *Electro-Technologies: Connections With Other CTS Strands*

Electro-Technologies Courses	Other CTS Strands																					
	Agriculture	Career Transitions	Communication Technology	Community Health	Construction Technologies	Cosmetology Studies	Design Studies	Energy and Mines	Enterprise and Innovation	Fabrication Studies	Fashion Studies	Financial Management	Foods	Forestry	Information Processing	Legal Studies	Logistics	Management and Marketing	Mechanics	Tourism Studies	Wildlife	
<b>Theme: Fabrication and Service Principles</b>																						
ELT1010: Electro-assembly 1	■	■	■				■								■					■		
ELT2010: Electro-assembly 2	■	■	■				■			■					■					■		
ELT2020: Electrical Servicing	■	■	■				■		■	■					■					■		
ELT3010: Electro-assembly 3	■	■	■				■		■	■					■					■		
ELT3020: Electronic Servicing	■	■	■				■		■	■					■					■		
<b>Theme: Power Systems</b>																						
ELT1030: Conversion & Distribution		■					■													■		
ELT1050: Electronic Power Supply 1		■					■			■					■					■		
ELT2030: Branch Circuit Wiring		■		■	■		■			■	■				■					■		
ELT2050: Electronic Power Supply 2		■					■			■	■				■					■		
ELT3030: Power Systems & Services		■					■			■	■				■					■		
ELT3040: Generation/Transformation		■					■			■	■				■					■		
<b>Theme: Computer Logic Systems</b>																						
ELT1060: Digital Technology 1	■	■	■				■													■		
ELT1080: Control Systems 1	■	■	■				■													■		
ELT2060: Digital Technology 2	■	■	■				■			■										■		
ELT2070: Computer Technology	■	■	■				■			■					■					■		
ELT2080: Control Systems 2	■	■	■				■			■					■					■		
ELT3060: Digital Technology 3	■	■	■				■			■										■		
ELT3070: Digital Applications	■	■	■				■			■										■		
ELT3080: Microprocessors	■	■	■				■			■					■					■		■
ELT3090: Microprocessor Interface	■	■	■				■			■					■					■		■
<b>Theme: Communication Systems</b>																						
ELT1090: Analog Communication 1		■					■													■		■
ELT1100: Electronic Communication		■					■													■		■
ELT1110: Security Systems 1	■	■	■				■													■		■
ELT2090: Analog Communication 2		■					■								■					■		
ELT2100: Radio Communication		■					■								■					■		
ELT2110: Security Systems 2	■	■	■				■								■					■		■
ELT2120: Electro-optics		■					■								■					■		
ELT3100: Analog Communication 3		■					■								■					■		
ELT3110: Amplifiers		■					■								■					■		
ELT3130: Data/Telemetry Systems		■					■								■					■		
<b>Theme: Robotic and Control Systems</b>																						
ELT1130: Robotics 1		■					■								■					■		
ELT2130: Magnetic Control Devices		■					■								■					■		
ELT2140: Robotics 2		■					■			■					■					■		
ELT2150: Electronic Controls	■	■	■				■			■					■					■		
ELT3140: Motors	■	■	■				■			■					■					■		
ELT3150: Robotics 3	■	■	■				■			■					■					■		
ELT3160: Control Applications	■	■	■				■			■					■					■		

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 – *Electro-Technologies: Connections Across the Curriculum*

## Across the Curriculum

Electro-Technologies Courses	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
<b>Theme: Fabrication and Service Principles</b>																			
ELT1010: Electro-assembly 1				■						■	■			■	■				
ELT2010: Electro-assembly 2	■			■				■		■	■			■	■				
ELT2020: Electrical Servicing	■		■	■				■		■	■			■	■				
ELT3010: Electro-assembly 3										■	■			■	■				
ELT3020: Electronic Servicing			■					■		■	■			■	■				
<b>Theme: Power Systems</b>																			
ELT1030: Conversion & Distribution	■		■	■				■		■	■			■	■				
ELT1050: Electronic Power Supply 1	■		■	■				■		■	■			■	■				
ELT2030: Branch Circuit Wiring							■			■	■			■	■			■	
ELT2050: Electronic Power Supply 2								■		■	■			■	■				
ELT3030: Power Systems & Services														■	■				
ELT3040: Generation/Transformation														■	■				
<b>Theme: Computer Logic Systems</b>																			
ELT1060: Digital Technology 1	■		■	■				■						■	■				
ELT1080: Control Systems 1	■		■	■				■						■	■				
ELT2060: Digital Technology 2				■				■						■	■				
ELT2070: Computer Technology				■				■						■	■				
ELT2080: Control Systems 2				■				■						■	■				
ELT3060: Digital Technology 3								■						■	■				
ELT3070: Digital Applications								■						■	■				
ELT3080: Microprocessors								■						■	■				
ELT3090: Microprocessor Interface								■						■	■				
<b>Theme: Communication Systems</b>																			
ELT1090: Analog Communication 1	■		■	■				■		■				■	■				
ELT1100: Electronic Communication	■		■	■				■		■				■	■				
ELT1110: Security Systems 1	■		■	■				■		■				■	■				
ELT2090: Analog Communication 2				■				■						■	■				
ELT2100: Radio Communication				■				■						■	■				
ELT2110: Security Systems 2				■				■						■	■				
ELT2120: Electro-optics				■				■						■	■				
ELT3100: Analog Communication 3								■						■	■				
ELT3110: Amplifiers								■						■	■				
ELT3130: Data/Telemetry Systems								■						■	■				
<b>Theme: Robotic and Control Systems</b>																			
ELT1130: Robotics 1	■		■	■				■						■	■				
ELT2130: Magnetic Control Devices				■				■						■	■				
ELT2140: Robotics 2				■				■						■	■				
ELT2150: Electronic Controls				■				■						■	■			■	
ELT3140: Motors				■				■						■	■			■	
ELT3150: Robotics 3								■						■	■				
ELT3160: Control Applications								■						■	■				

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.



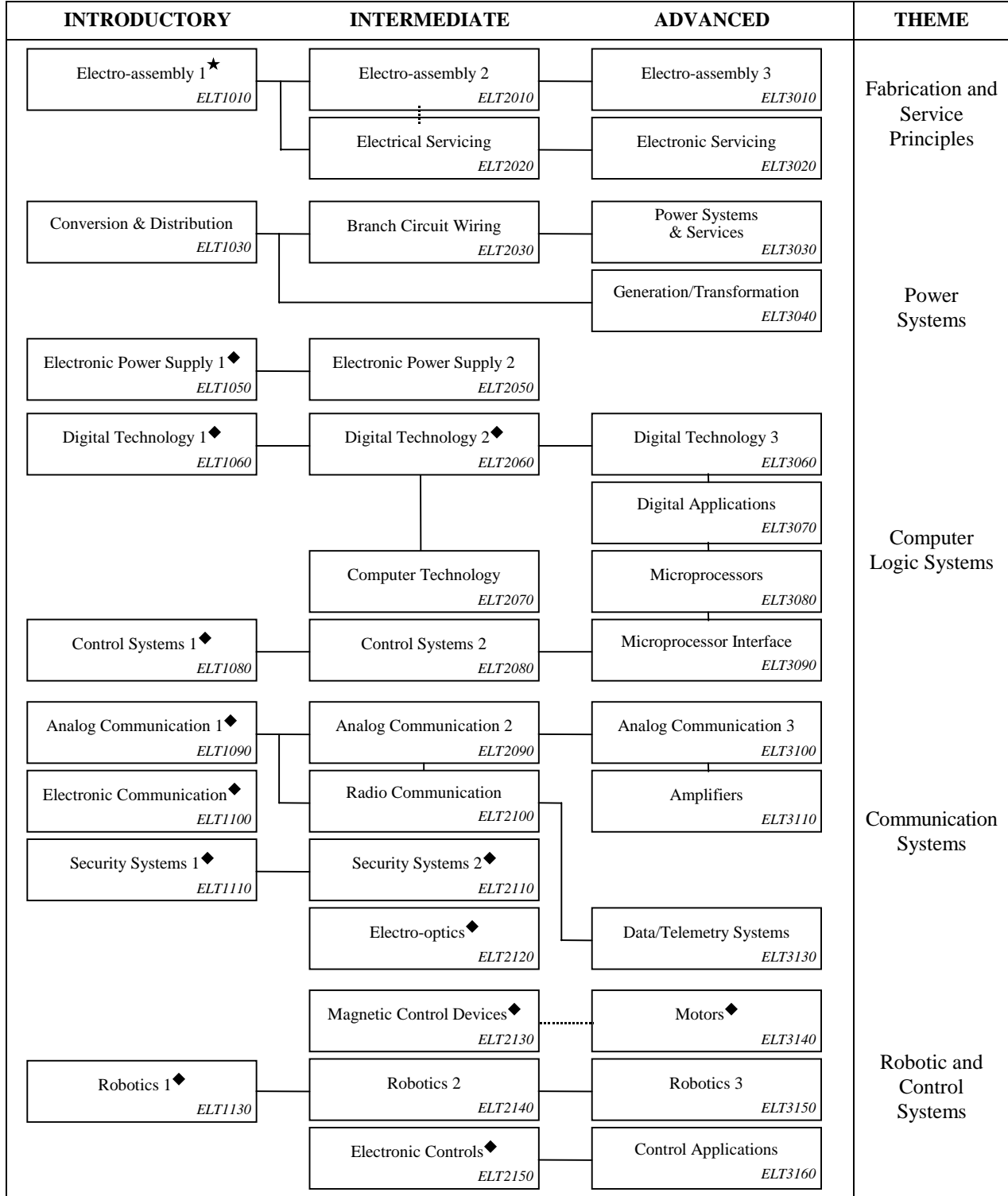
Provides some links with course content, usually through the application of related technologies and/or processes.



## LINKAGES – *Electro-Technologies: Junior High School Course Clusters*

Course Emphasis	Electro-Technologies Courses	Mechanics Courses	Design Studies Courses	Construction Technologies Courses
Electrical/ Electronic Principles (3 courses)	Electro-assembly 1 <i>ELT1010</i>	Electrical Fundamentals <i>MEC1090</i>		
	Conversion & Distribution <i>ELT1030</i>			
Design/Prototyping (4 courses)	Electro-assembly 1 <i>ELT1010</i>	Modes & Mechanisms <i>MEC1010</i>	Sketch, Draw & Model <i>DES1010</i>	Basic Tools & Materials <i>CON1010</i>
Course Emphasis	Electro-Technologies Courses	Information Processing Courses	Design Studies Courses	Construction Technologies Courses
Computers/Uses (5 courses)	Digital Technology 1 <i>ELT1060</i>	Computer Operations <i>INF1010</i>	CAD Fundamentals <i>DES1050</i>	
	Computer Technology <i>ELT2070</i>	Keyboarding 1 <i>INF1020</i>		
Course Emphasis	Electro-Technologies Courses	Mechanics Courses	Energy & Mines Courses	Construction Technologies Courses
Energy Conversion/Uses (6 courses)	Electro-assembly 1 <i>ELT1010</i>	Electrical Fundamentals <i>MEC1090</i>	Overview of Alberta Geology <i>ENM1010</i>	Basic Tools & Materials <i>CON1010</i>
	Conversion & Distribution <i>ELT1030</i>			
	Electronic Power Supply 1 <i>ELT1050</i>			

## Electro-Technologies: Scope and Sequence



—— Prerequisite

..... Recommended sequence

★ Course provides a strong foundation for further learning in this strand.

♦ Refer to specific courses for additional prerequisites.

***Electro-Technologies: Extended Scope and Sequence***

<b>THEME</b>	<b>INTRODUCTORY</b>	<b>INTERMEDIATE</b>	<b>ADVANCED</b>
<b>Fabrication and Service Principles</b>	Personal Safety (Management) <i>CTR1210</i>	Workplace Safety (Practices) <i>CTR2210</i>	
	The Design Process <i>DES1020</i>	3D Design Applications <i>DES2020</i>	2D Design Studio 1 <i>DES3010</i>
	2D Design Fundamentals <i>DES1030</i>	Technical Drawing Applications <i>DES2050</i>	
	CAD Fundamentals <i>DES1050</i>	CAD Applications <i>DES2030</i>	
	Basic Tools & Materials <i>CON1010</i>	Print Reading <i>FAB2020</i>	
	Sheet Fabrication 2 (Machine Processes) <i>FAB2090</i>		
<b>Power Systems</b>	Nonrenewable Resources <i>ENM1020</i>	Renewable Energy Technology <i>ENM2050</i>	Sustainable Energy (The Power & Potential) <i>ENM3050</i>
	Building Construction <i>CON1070</i>	Electrical Systems <i>CON2070</i>	Energy Efficient Housing <i>CON3080</i>
	Electrical Fundamentals <i>MEC1090</i>	Electrical Components <i>MEC2090</i>	
<b>Computer Logic Systems</b>	Computer Operations <i>INF1010</i>	Ignition Systems <i>MEC2060</i>	Computer Systems <i>MEC3090</i>
	Word Processing 1 <i>INF1030</i>	Emission Controls <i>MEC2070</i>	
	Programming 1 <i>INF1080</i>	Programming 2 <i>INF2150</i>	Programming Application 1 <i>INF3150</i>
			Expert Systems <i>INF3140</i>
<b>Communication Systems</b>	Audio/Video Production 1 <i>COM1060</i>	Audio/Video 1 <i>COM2090</i>	Video 3 <i>COM3110</i>
	Animation 1 <i>COM1070</i>	Digital Design 2 <i>COM2120</i>	Digital Design 3 <i>COM3130</i>
	Information Highway 1 <i>INF1090</i>	Information Highway 2 <i>INF2200</i>	
<b>Robotic and Control Systems</b>	Logistics <i>LOG1010</i>	CNC Turning (Computer Numeric Control) <i>FAB2150</i>	CNC Milling (Computer Numeric Control) <i>FAB3150</i>
	Production Systems <i>FAB1160</i>	Inventory Management 1 <i>LOG2040</i>	Inventory Management 2 <i>LOG3040</i>



## TRANSITIONS – *Electro-Technologies: 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

Occupation Profile	NOC#	D	C	B	A
Audio and Video Recording Technicians	5225	✓		✓	
Avionics Technician	2244			✓	✓
Broadcast Technician	5224			✓	
Cable Television Service and Maintenance Technicians	7247	✓		✓	
Communication Electrician	7246			✓	
Contractors and Supervisors, Electrical Trades and Telecommunication Occupations	7212		✓		
Electric Appliance Servicers and Repairers	7332		✓		
Electrical and Electronic Engineers	2133				✓
Electrical Engineering Technologist	2241			✓	
Electrician	7241		✓		
Electrical Mechanic	7333		✓		
Electrical Power Line and Cable Workers	7352		✓		
Electrical Rewind Mechanic	7333/2242		✓		
Electronic Technician	2241		✓		
Electronics Engineering Technologist	2241			✓	
Electronic Service Technicians (Household and Business Equipment)	2242		✓	✓	
Fiber Optics Technician	2241			✓	
Industrial Electricians	7242			✓	
Laser Technician	2241			✓	
Meter Reader	1454	✓			
Power Lineman	7244		✓		
Power System Electrician	7243		✓		
Power Systems and Power Station Operators	7352		✓	✓	
Stationary Engineers and Auxiliary Equipment Operators	7351		✓	✓	
Supervisors, Electrical Products Manufacturing	9223	✓			
Supervisors, Electronics Manufacturing	9222	✓		✓	
Telecommunications Installation and Repair Workers	7246	✓		✓	
Telecommunications Line and Cable Workers	7245		✓	✓	
Utilities Manager	9227			✓	✓

## Section H: Linkages/Transitions

### SUMMARY OF RELATED POST-SECONDARY PROGRAMS

Effective September 2004, the chart Summary of Related Post-secondary Programs has been deleted from ALL CTS strands as the information is out of date.

Current information is available in the publication:  
“It’s About Time ... to choose a post-secondary education program 2003–2004” published by Alberta Human Resources and Employment.

This publication is available:

- online through the Alberta Learning Information Services (ALIS) Web site at [www.alis.gov.ab.ca/careershop](http://www.alis.gov.ab.ca/careershop)
- in print through the Learning Resources Centre (LRC)  
Product Number: 519275.

## **CREDENTIALLING – *Electro-Technologies: Credentialling Opportunities*★**

The following credentialling opportunities link with courses in Electro-Technologies and other strands.

<b>Certificate</b>	<b>Agency</b>	<b>Linking Courses</b>	<b>Instructor Qualifications</b>	<b>Comments</b>
Explosive Actuated Tools (EAT)	Technical Institute or College (post-secondary)	Concrete Work (Structures & Finishing) (CON3010)	EAT certificate	Required by OH&S for all operators to be certified  Formal credentialling to be arranged through local college or technical institute.
Construction Safety Training System	Alberta Construction Safety Association	Site Management (CON3110)	Alberta Construction Safety Association Trainer	Can be offered through a CD ROM Interactive Video Computer system
Emergency First Aid	St. John Ambulance Canadian Red Cross	Personal Safety (Management) (CTR1210)	Certified First Aid/CPR Instructor	Three-year nationally recognized certificate
CPR Level C	St. John Ambulance Canadian Red Cross	Practicum courses (CTR Practicum Courses A-E, CTR3040–3080)	CPR Instructors	Nationally recognized certification “Basic Rescuer” includes airway management and CPR for adults, children, infants and 2-rescuer adult CPR (12 hours)
Workplace Hazardous Materials Information Systems (WHMIS)	Occupational Health and Safety	Personal Safety (Management) (CTR1210)	WHMIS Instructor	Addresses skills required to work safely with hazardous materials
Transportation of Dangerous Goods (TDG)	Occupational Health and Safety	Workplace Safety (Practices) (CTR 2210)	TDG Instructor	Addresses skills required by individuals involved with the transportation and handling of dangerous goods

★Further information regarding these and other credentialling opportunities available to CTS students is available through Alberta Learning’s web site <<http://ednet.edc.gov.ab.ca>>.

