

# INFORMATION PROCESSING

## SECTION H: LINKAGES/TRANSITIONS

### TABLE OF CONTENTS

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.

#### LINKAGES

With Other CTS Strands.....	H.3
With Other Secondary Programs.....	H.4
With Practical Arts Courses .....	H.5

#### TRANSITIONS

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

#### Charts

Information Processing: Connections with Other CTS Strands .....	H.6
Information Processing: Connections Across the Curriculum.....	H.7
Information Processing in Junior High .....	H.8
Information Processing: Correlations with Practical Arts Courses:	
Business Education 10–20–30 and Typewriting 10–20–30 .....	H.9
Information Processing: Correlation with Computer Processing 10–20–30 .....	H.11
Information Processing: Correlations with Practical Arts Courses:	
Typewriting 10–20–30, Business Education 10–20–30 and	
Computer Processing 10–20–30.....	H.13
Information Processing: Related Occupations.....	H.17
Information Processing: Summary of Related Post-secondary Programs.....	H.18



## LINKAGES/TRANSITIONS

### LINKAGES

The Information Processing strand supports the integration of computers in all CTS strands as well as in all core or other complementary programs. In addition, the competencies developed in the Information Processing strand support a wide range of transitions into the workplace or related post-secondary programs.

### With Other CTS Strands

There are direct and indirect linkages between Information Processing and all of the CTS strands, particularly where students are able to use computers as a learning tool. Examples of how students in other strands might use computer technology are indicated in the chart below.

Foods	<ul style="list-style-type: none"> <li>determine nutritional content or design and print menus</li> </ul>
Legal Studies	<ul style="list-style-type: none"> <li>undertake research of precedents (database) or access some of the legal libraries or bulletin boards</li> </ul>
Tourism Studies	<ul style="list-style-type: none"> <li>design room and table layouts for a banquet or access the travel databases</li> </ul>
Communication Technology	<ul style="list-style-type: none"> <li>apply knowledge of desktop publishing software in projects requiring layout and design</li> </ul>
Financial Management	<ul style="list-style-type: none"> <li>apply knowledge of spreadsheets and financial management software to manage personal and business finances</li> </ul>
Design Studies	<ul style="list-style-type: none"> <li>use understanding of software applications as a basis for learning about computer-assisted design software</li> </ul>
Enterprise and Innovation	<ul style="list-style-type: none"> <li>use competency in productivity software packages to prepare proposals and analyze the financial implications of ventures</li> </ul>
Career Transitions	<ul style="list-style-type: none"> <li>use competency in word processing and graphic design to prepare resumes and related correspondence</li> </ul>

Note that the project modules from the Career Transitions strand may be combined with modules from the Information Processing strand to provide increased opportunity for students to develop expertise and refine their competencies in a particular module or modules. For example, the project modules could enhance the

programming theme with the following projects:

- machine language programming
- programming graphics
- dynamic variables
- systems design/analysis
- programming simulations.

Potential linkages of Information Processing with other strands, determined by course emphasis and area of specialization, are identified in this section (see “Information Processing: Connections with Other CTS Strands,” page H.6, and “Information Processing: Connections Across the Curriculum,” page H.7).

Many Information Processing modules can be effectively integrated into other strands. For example:

Communication Technology	<p>supporting layout and design concepts:</p> <ul style="list-style-type: none"> <li>• Graphics Tools, Electronic Publishing 1–2</li> </ul>
Electro-Technologies	<p>supporting the computer logic systems:</p> <ul style="list-style-type: none"> <li>• Programming 1–5</li> <li>• Programming Applications 1–3</li> </ul>
Management and Marketing	<p>supporting layout and design concepts used in promotion and in setting up a retail store:</p> <ul style="list-style-type: none"> <li>• Graphics Tools, Electronic Publishing 1–2</li> <li>• Multimedia Authoring 1 and 2</li> </ul> <p>supporting the writing process in communications strategies:</p> <ul style="list-style-type: none"> <li>• Keyboarding 1–4</li> <li>• Word Processing 1–3</li> <li>• Correspondence, Reports, Tables/Forms</li> </ul> <p>supporting records management systems:</p> <ul style="list-style-type: none"> <li>• Database 1 and 2</li> </ul>

### With Other Secondary Programs

Many Information Processing modules can be effectively integrated into core and complementary courses.

Potential linkages of Information Processing with other core and complementary subject areas across the curriculum are identified in this section (see “Information Processing: Connections Across the Curriculum,” page H.7).

The following linkages identify broad connections to core programs in junior and senior high.

<p>Language Arts and English Social Studies</p>	<p>supporting the research and writing process:</p> <ul style="list-style-type: none"> <li>• Keyboarding 1–5</li> <li>• Word Processing 1–3</li> <li>• Graphics Tools, Electronic Publishing 1–2</li> </ul>
<p>Mathematics and Science</p>	<p>supporting problem solving and the organizing, analyzing and presenting of data:</p> <ul style="list-style-type: none"> <li>• Word Processing 1–3</li> <li>• Electronic Publishing 1–2</li> <li>• Spreadsheet 1–2</li> <li>• Database 1–2</li> <li>• Information Management Tools</li> <li>• Software Integration 1–3</li> <li>• Programming 1–5</li> <li>• Programming Application 1–3</li> </ul>

### With Practical Arts Courses

Courses in the Information Processing strand replace existing content in the senior high Business Education 10–20–30, Typewriting 10–20–30 and Computer Programming 10–20–30. A detailed correlation of the Information Processing strand to these practical arts courses can be found in this section (see “Information Processing-Correlations with Business Education 10–20–30 and Typewriting 10–20–30,” page H.9, “Computer Processing 10–20–30,” page H.11, and “Information Processing-Correlations with Practical Arts Courses,” page H.13).

- 18 occupations that require further education at a college or technical institution (possibly obtaining advanced standing or preferred entrance in the post-secondary program)
- 10 occupations that require further education at the university level (possibly obtaining preferred entrance into a program).

Information from the National Occupational Classification (NOC) regarding occupations in information processing-related areas that can be accessed upon completion of high school is provided in this section (see “Information Processing: Related Occupations,” page H.17).

## TRANSITIONS

### To the Community/Workplace

The National Occupational Classification (NOC) chart indicates occupations for which Information Processing provides a foundation. High school students could potentially move into:

- 12 occupations requiring a high school education

### To Related Post-secondary Programs

An outline of post-secondary institutions in Alberta currently offering programs in information processing-related areas is provided in this section (see “Information Processing: Summary of Related Post-secondary Programs,” page H.18).

## Information Processing: Connections With Other CTS Strands

Information Processing Courses	Other CTS Strands																				
	Agriculture	Career Transitions	Communication Technology	Community Health	Construction Technologies	Cosmetology Studies	Design Studies	Energy and Mines	Electro Technologies	Enterprise and Innovation	Fashion Studies	Financial Management	Foods	Fabrication Studies	Forestry	Legal Studies	Logistics	Management and Marketing	Mechanics	Tourism Studies	Wildlife
<b>Theme: System Operations</b>																					
INF2010: Workstation Operations																					
INF3010: Hardware/Software Analysis																					
INF3020: Local Area Networks																					
INF2190: Telecommunications 1																					
INF3180: Telecommunications 2																					
<b>Theme: Text/Data Input</b>																					
INF1020: Keyboarding 1																					
INF2030: Keyboarding 2																					
INF2040: Keyboarding 3																					
INF3030: Keyboarding 4																					
INF3040: Keyboarding 5																					
INF3050: Keyboarding 6																					
<b>Theme: Productivity Software</b>																					
INF1030: Word Processing 1																					
INF1040: Graphics Tools																					
INF1050: Database 1																					
INF1060: Spreadsheet 1																					
INF1070: Hypermedia Tools																					
INF2050: Word Processing 2																					
INF2060: Electronic Publishing 1																					
INF2070: Database 2																					
INF2080: Spreadsheet 2																					
INF2130: Multimedia Authoring 1																					
INF3060: Word Processing 3																					
INF3070: Electronic Publishing 2																					
INF3080: Information Management Tools																					
INF3130: Multimedia Authoring 2																					
<b>Theme: Applied Processing</b>																					
INF2090: Correspondence																					
INF2100: Reports																					
INF2110: Tables/Forms																					
INF2120: Software Integration 1																					
INF3090: Software Integration 3																					
INF3100: Specialization 1																					
INF3110: Specialization 2																					
INF3120: Software Integration 2																					
<b>Theme: Dynamic Environment</b>																					
INF2140: Process Control																					
INF2200: Information Highway 2																					
INF3140: Expert Systems																					
INF3190: Information Highway 3																					
INF3200: Internet Services																					
<b>Theme: Programming</b>																					
INF1080: Programming 1																					
INF2150: Programming 2																					
INF2160: Programming 3																					
INF2170: Programming 4																					
INF2180: Programming 5																					

# Information Processing: Connections Across the Curriculum

## 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
<b>Information Processing Courses</b>																			
<b>Theme: System Operations</b>																			
INF2010: Workstation Operations																			
INF3010: Hardware/Software Analysis																			
INF3020: Local Area Networks																			
INF2190: Telecommunications 1																			
INF3180: Telecommunications 2																			
<b>Theme: Text/Data Input</b>																			
INF1020: Keyboarding 1																			
INF2030: Keyboarding 2																			
INF2040: Keyboarding 3																			
INF3030: Keyboarding 4																			
INF3040: Keyboarding 5																			
INF3050: Keyboarding 6																			
<b>Theme: Productivity Software</b>																			
INF1030: Word Processing 1																			
INF1040: Graphics Tools																			
INF1050: Database 1																			
INF1060: Spreadsheet 1																			
INF1070: Hypermedia Tools																			
INF2050: Word Processing 2																			
INF2060: Electronic Publishing 1																			
INF2070: Database 2																			
INF2080: Spreadsheet 2																			
INF2130: Multimedia Authoring 1																			
INF3060: Word Processing 3																			
INF3070: Electronic Publishing 2																			
INF3080: Information Management Tools																			
INF3130: Multimedia Authoring 2																			
<b>Theme: Applied Processing</b>																			
INF2090: Correspondence																			
INF2100: Reports																			
INF2110: Tables/Forms																			
INF2120: Software Integration 1																			
INF3090: Software Integration 3																			
INF3100: Specialization 1																			
INF3110: Specialization 2																			
INF3120: Software Integration 2																			
<b>Theme: Dynamic Environment</b>																			
INF2140: Process Control																			
INF2200: Information Highway 2																			
INF3140: Expert Systems																			
INF3190: Information Highway 3																			
INF3200: Internet Services																			
<b>Theme: Programming</b>																			
INF1080: Programming 2																			
INF2150: Programming 2																			
INF2160: Programming 3																			
INF2170: Programming 4																			
INF2180: Programming 5																			
INF3150: Programming Application 1																			

## LINKAGES — *Information Processing in Junior High*

Course Emphasis	Information Processing Courses	Management & Marketing Courses	Communication Technology Courses	Design Studies Courses
(Theme 1) Design (3 courses)	Workstation Operations <i>INF2010</i>			The Design Process <i>DES1020</i>
	Graphics Tools <i>INF1040</i>			
Course Emphasis	Information Processing Courses	Management & Marketing Courses	Communication Technology Courses	Electro-Technologies Courses
(Theme 2) Programming (4 courses)	Workstation Operations <i>INF2010</i>			Digital Technology 1 <i>ELT1060</i>
	Programming 1 <i>INF1080</i>			Robotics 1 <i>ELT1130</i>
(Theme 3) Written Communications (5 courses)	Workstation Operations <i>INF2010</i>	Communication Strategies 1 <i>MAM1030</i>		
	Keyboarding 1 <i>INF1020</i>			
	Word Processing 1 <i>INF1030</i>			
	Information Highway 2 <i>INF2200</i>			
Course Emphasis	Information Processing Courses	Management & Marketing Courses	Communication Technologies Courses	Design Studies Courses
(Theme 4) Visual Communication (5 courses)	Graphics Tools <i>INF1040</i>		Media & You <i>COM1020</i>	The Design Process <i>DES1020</i>
	Hypermedia Tools <i>INF1070</i>		Animation 1 <i>COM1070</i>	

**LINKAGES – Information Processing: Correlations with Practical Arts Courses:†**  
**Business Education 10–20–30 and Typewriting 10–20–30**

Information Processing Modules	Keyboarding 1	Keyboarding 2	Keyboarding 3	Keyboarding 4	Keyboarding 5	Keyboarding 6	Word Processing 1	Word Processing 2	Word Processing 3	Correspondence	Reports	Tables & Forms	Software Integration 1	Software Integration 2	Software Integration 3	Electronic Publishing 1	Electronic Publishing 2	Specialization 1	Specialization 2
	<b>TYPEWRITING 10-20-30</b>																		
Module 1: Keyboarding																			
• Basic Techniques	✓	✓	✓	✓	✓	✓													
• Skill Development	✓	✓	✓	✓	✓	✓													
• Production Applications																			
Module 2: Keyboarding, Centring and Tabulation																			
• Basic Techniques	✓	✓	✓	✓	✓	✓	✓	✓											
• Skill Development	✓	✓	✓	✓	✓	✓	✓	✓											
• Production Applications	✓	✓	✓	✓	✓	✓	✓	✓											
Module 3: Letters and Essays																			
• Basic Techniques							✓	✓	✓						✓	✓	✓		
• Skill Development							✓	✓	✓						✓	✓	✓		
• Production Applications								✓	✓						✓				
Module 4: Reports																			
• Basic Techniques							✓	✓	✓		✓		✓	✓	✓	✓	✓		
• Skill Development							✓	✓	✓		✓		✓	✓	✓	✓	✓		
• Production Applications							✓	✓	✓		✓		✓	✓	✓	✓	✓		
Module 5: Letters and Tables																			
• Basic Techniques							✓	✓	✓	✓		✓			✓	✓	✓		
• Skill Development							✓	✓	✓	✓		✓			✓	✓	✓		
• Production Applications							✓	✓	✓	✓		✓			✓	✓	✓		
Module 6: Manuscripts																			
• Basic Techniques								✓	✓		✓		✓	✓	✓	✓	✓		
• Skill Development								✓	✓		✓		✓	✓	✓	✓	✓		
• Production Applications								✓	✓		✓		✓	✓	✓	✓	✓		

† September 1997: All practical arts courses replaced by Career and Technology Studies.

**LINKAGES – Information Processing: Correlations with Practical Arts Courses:†**  
**Business Education 10–20–30 and Typewriting 10–20–30** (continued)

Information Processing Modules	Keyboarding 1	Keyboarding 2	Keyboarding 3	Keyboarding 4	Keyboarding 5	Keyboarding 6	Word Processing 1	Word Processing 2	Word Processing 3	Correspondence	Reports	Tables & Forms	Software Integration 1	Software Integration 2	Software Integration 3	Electronic Publishing 1	Electronic Publishing 2	Specialization 1	Specialization 2	
	Module 7: Tables, Business Forms and Financial Reports																			
• Basic Techniques							✓	✓	✓		✓	✓	✓	✓	✓	✓	✓			
• Skill Development							✓	✓	✓		✓	✓	✓	✓	✓	✓	✓			
• Production Applications							✓	✓	✓		✓	✓	✓	✓	✓	✓	✓			
Module 8: Business Correspondence																				
• Basic Techniques							✓	✓	✓	✓			✓	✓	✓	✓	✓			
• Skill Development							✓	✓	✓	✓			✓	✓	✓	✓	✓			
• Production Applications							✓	✓	✓	✓			✓	✓	✓	✓	✓			
Module 9: Specialized Production Applications																				
• Basic Techniques									✓	✓	✓	✓	✓	✓	✓	✓	✓			
• Skill Development									✓	✓	✓	✓	✓	✓	✓	✓	✓			
• Production Applications									✓	✓	✓	✓	✓	✓	✓	✓	✓			
Module 10: Production Projects and Review																				
• Production Applications													✓	✓		✓	✓			
Module 11: Professional Applications I									✓						✓	✓				
Module 12: Professional Applications II																				
• Production Applications									✓				✓	✓	✓	✓	✓			
Module 13: Simulation I																			✓	✓
Module 14: Simulation II																				
• Production Applications																			✓	✓
<b>BUSINESS EDUCATION 10-20-30</b>																				
Module 12: Dicta Typing 1								✓		✓	✓	✓								
Module 13: Dicta Typing 2									✓	✓	✓	✓							✓	
Module 14: Word Processing 1							✓								✓					
Module 15: Word Processing 2								✓		✓	✓	✓	✓		✓				✓	
Module 16: Business Simulation																			✓	✓

† September 1997: All practical arts courses replaced by Career and Technology Studies.

**LINKAGES: Information Processing: Correlations with Practical Arts Courses:†**  
**Computer Processing 10–20–30**

Information Processing Courses	Workstation Operations	Graphics Tools	Database 1	Database 2	Spreadsheet 1	Spreadsheet 2	Hypermedia Tools	Programming 1	Programming 2	Programming 3	Programming 4	Programming 5	Programming Applications 1	Programming Applications 2	Programming Applications 3	Process Control	Expert Systems	Local Area Networks	Hardware/Software Analysis
	Module 1: Computer Information Processing																		
• Evolution of Data Processing																			
• Terminology																			
• Characteristics of Information Systems																			
• Information Processing Environment																			
• Data Communications																			
• Issues and Trends																			
Module 2: Overview of Software																			
• Terminology	✓																		
• Legal Constraints of Use of Software	✓																		
• Proper Handling Techniques	✓																		
• Types of Software	✓																		
• Software Applications	✓																		
• Software Use Procedures	✓																		
Module 3: Applications: Data Entry																			
• Data Entry Functions			✓	✓															✓
• Coding Data			✓	✓															✓
• Data Entry Functions			✓	✓															✓
• Generating Reports			✓	✓															✓
Module 4: Applications: Word Processing																			
• Introduction to Information Processing																			
• Software Commands																			
• Input/Output																			

† September 1997: All practical arts courses replaced by Career and Technology Studies.

**LINKAGES: Information Processing: Correlations with Practical Arts Courses:†**  
**Computer Processing 10–20–30** (continued)

	Information Processing Courses	Workstation Operations	Graphics Tools	Database 1	Database 2	Spreadsheet 1	Spreadsheet 2	Hypermedia Tools	Programming 1	Programming 2	Programming 3	Programming 4	Programming 5	Programming Applications 1	Programming Applications 2	Programming Applications 3	Process Control	Expert Systems	Local Area Networks	Hardware/Software Analysis
Module 5:	Applications: Computer Simulations																			
Module 6:	Applications: Data Base			✓	✓															
Module 7:	Applications: Electronic Spreadsheet					✓	✓													
Module 8:	Overview of Introductory Programming Language								✓											
Module 9:	Fundamentals of Input/ Output								✓											
Module 10:	Introduction to Advanced Computer Programming Techniques									✓										
Module 11:	Advanced Computer Programming Techniques										✓									
Module 12:	Extended Programming Project											✓	✓							
Module 13:	Introduction to Second Programming Language													✓						
Module 14:	Applications in Second Programming Language													✓	✓					
Module 15:	Extended Project in Second Programming Language													✓	✓					
Module 16:	Graphics		✓																	
Module 17:	Systems Analysis and Program Development																	✓		✓
Module 18:	Machine/Assembly Language												✓	✓	✓					

† September 1997: All practical arts courses replaced by Career and Technology Studies.









## LINKAGES — INFORMATION PROCESSING: *Related Occupations*

Information for this chart was obtained from the National Occupations 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
Administrative Officer	1221	✓		✓	✓
Computer Engineer	2147				✓
Computer Operator	1421	✓		✓	
Computer Programmer	2163			✓	✓
Computer Service Technologist	2242			✓	✓
Computer Systems Analyst	2162			✓	✓
Correspondence, Publication and Related Clerk	1452	✓			
Data Entry Clerk	1422	✓		✓	
Demographer	2161				✓
Desktop Publishing Specialist	1423			✓	✓
Economist	4162				✓
Executive Assistant	1222	✓		✓	
File Clerk	1413	✓			
General Office Clerk	1411	✓		✓	
Health Record Administrator	0114			✓	
Health Record Technician	1413			✓	
Information Systems Consultant	2162				✓
Librarian	5111			✓	✓
Library Clerk	1451	✓			
Library Technician	5211			✓	
Medical Transcriptionist	1244			✓	
Office Machine Technician	2242			✓	
Receptionist	1414	✓			
Secretaries (except Legal and Medical)	1241	✓		✓	
Survey Interviewers and Statistical Clerks	1454	✓			
Typesetter and Related Occupations	1423			✓	
Typist and Word Processor Operators	1412	✓		✓	



