



British Columbia



Expanded Core Curriculum for Students with Visual Impairments (ECC-VI)

Technology (ECC-VI-Tech)
Grades 10, 11, 12

October 2006

EXPANDED CORE CURRICULUM–VISUALLY IMPAIRED Technology (ECC-VI-Tech) 10, 11, and 12

PROPOSAL FOR BOARD / AUTHORITY AUTHORIZED COURSES - APPROVED

District Name: Kelowna

District Number: 23

Developed By: BC Teachers of the Visually Impaired, PRCVI, SET-BC

Date Developed: January – December 2005

School Name: Kelowna School District # 23

Consultant's Name: Brenda Graziano , Career Programs
Deborah Lomond, Teacher of Students with Visual Impairments

Board/Authority Approval Date: March 1, 2006

Course Name: **Expanded Core Curriculum - Visually Impaired -Technology**

Grade Level of Course: 10, 11 and/or 12

Number of Course Credits: 1, 2, 3 or 4 – dependent on choice of modules

Hours of Instruction: 30 to 120 – dependent on modules selected

RATIONALE FOR ECC-VI	5
MISSION STATEMENT FOR ECC-VI	5
BELIEFS	5
GOALS	6
BACKGROUND	6
ECC PROJECT BACKGROUND AND PROCESS	6
ABOUT GRADUATION REQUIREMENTS FOR BRITISH COLUMBIA AND ABOUT BOARD/AUTHORITY AUTHORIZED COURSES	9
BRITISH COLUMBIA SECONDARY SCHOOL GRADUATION REQUIREMENTS.....	9
BOARD/AUTHORITY AUTHORIZED COURSES.....	9
STUDENT PROFILES	9
COURSE/MODULE CHALLENGES	10
EXPANDED CORE CURRICULUM COURSES AND CREDITS	11
ECC - VI – TECHNOLOGY 10, 11, 12 OVERVIEW OF MODULES	12
CCTV	12
ROOM VIEWING	12
SCREEN MAGNIFICATION	12
NOTETAKERS WITH REFRESHABLE BRAILLE DISPLAY	13
OPERATING SYSTEM MODIFICATIONS.....	13
SCREEN READERS	14
ECC-VI-TECHNOLOGY 10, 11, AND 12 MODULE OUTLINES	15
INCLUDES UNIT OVERVIEWS AND LEARNER OUTCOMES	15
PREREQUISITE(S).....	15
SPECIAL TRAINING, FACILITIES OR EQUIPMENT REQUIRED.....	15
SPECIAL CONSIDERATIONS FOR TECHNOLOGY INSTRUCTION.....	15
COURSE SYNOPSIS.....	16
MODULE: CCTV CONTROLS AND FEATURES (10 HOURS).....	17
MODULE: ROOM VIEWING (5 HOURS)	19
MODULE: SCREEN MAGNIFICATION (25 HOURS).....	20
MODULE: SCREEN MAGNIFICATION: RESOURCES	22
MODULE: BRAILLE NOTETAKER WITH REFRESHABLE BRAILLE DISPLAYS LEVEL 1 (25 HRS).....	24
BRAILLE NOTETAKER WITH REFRESHABLE BRAILLE DISPLAYS LEVEL 2 (30 HOURS).....	28
BRAILLE NOTETAKER WITH REFRESHABLE BRAILLE DISPLAYS LEVEL 3 (50 HOURS).....	31
MODULE: BRAILLE NOTETAKERS WITH REFRESHABLE BRAILLE DISPLAYS: RESOURCES	34
MODULE: OPERATING SYSTEM MODIFICATIONS (10 HOURS).....	35

MODULE: OPERATING SYSTEM MODIFICATIONS RESOURCES	39
MODULE: SCREEN READERS WITH BRAILLE DISPLAY	40
SCREEN READER LEVEL 1 (25 HOURS)	40
SCREEN READERS LEVEL 2 (25 HOURS)	44
SCREEN READER LEVEL 3 (35 HOURS)	48
MODULE: SCREEN READERS : RESOURCES.....	52
INSTRUCTIONAL COMPONENTS:.....	55
SPECIAL CONSIDERATIONS FOR TECHNOLOGY INSTRUCTION.....	55
ASSESSMENT COMPONENTS:.....	56
APPENDIX	57
MINISTRY OF BRITISH COLUMBIA	57
BOARD AUTHORITY/AUTHORIZED COURSE FRAMEWORK TEMPLATE.....	57
BAA APPROVAL AND CHALLENGE INFORMATION	59

Rationale for ECC-VI

Students who are blind or visually impaired can, with appropriate curriculum adaptations and instruction, meet the goals of the high school core curriculum in British Columbia. However the very nature of blindness and/or visual impairment requires that a wide range of experiences and concepts often casually and incidentally learned by students that are sighted in the home, school and community must be systematically and sequentially taught to the blind or visually impaired student. Thus the core curriculum necessary for students who are blind or visually impaired is larger and more complex than that for sighted students and is referred to as the expanded core curriculum (ECC).

The ECC consists of nine specific areas of skill development, namely: Compensatory or functional academic skills, including communication modes (Braille), orientation and mobility, assistive technology, social interaction skills, independent living skills, recreation and leisure skills, career education, visual efficiency skills and self determination and advocacy. While some of these skill areas are interrelated each is recognized as an area of study that warrants specific curriculum instruction. Furthermore, it is essential for students who are blind or visually impaired to develop competencies in each of these areas in order to reach their potential to live independently, have appropriate career opportunities, and live rewarding and fulfilling lives.

Mission Statement for ECC-VI

It is the mission of the ECC-VI Project, in collaboration with teachers of students with visual impairments throughout the province, to develop the framework (procedure, assessments, learning outcomes, supporting materials and resources) for course outlines for providing instruction in areas of the expanded core curriculum including courses offered for credit that will ultimately be adopted by the British Columbia Ministry of Education for use province-wide.

Beliefs

- We believe that in order for students with visual impairments to reach maximum potential and be prepared for adult life, there are skills, in addition to those in the core curriculum that must be acquired.
- We believe that student independence should be the main focus for all Expanded Core Curriculum instruction. In order to be self-sufficient after graduating from High School, the student must acquire skills for independent learning and living.
- We believe that students have the right to equal access to instruction in the expanded core curriculum regardless of where they reside in the province.

- We believe that instruction must be provided by qualified teacher of students with visual impairments and/or qualified orientation and mobility instructors and/or qualified instructors from accredited agencies offering specific training in the areas of the expanded core curriculum. We believe that an organized, structured system will aid in the equity of services and skills instruction delivered.
- We believe that development of these courses should be specific enough to meet requirements and flexible enough to meet individual student needs,
- We believe that these skills must be taught regardless of the provision of "course credit" but the option for course credit should be available.
- We believe that there should be a variety of options for the provision of instruction for skills in the expanded core curriculum (including in-school, school blocks, out-of-school, summer, weekend, etc)
- We believe that an assessment component for determination of skill level for entrance into instruction in the expanded core curriculum and achievement of skills is necessary.
- We believe that school districts have a responsibility to provide instruction in these skills.

Goals

The goal of the ECC-VI project is to develop Expanded Core Curriculum Course Outlines in order for courses to be accredited as board authorized, credit courses in British Columbia at the grade 10 -12 level for students with visual impairments.

Background

ECC Project Background and Process

In British Columbia, Board/Authority Authorized (BAA) courses are offered or developed by school boards or independent school authorities to meet student needs and interests. They are authorized by boards/authorities according to requirements set by the Ministry of Education. See http://www.bced.gov.bc.ca/policy/policies/board_authority.htm for Policy Document: Board/Authority Authorized Courses

The BAA process provided an opportunity to address the Expanded Core Curriculum (ECC) needs for high school students who are visually impaired and/or blind in British Columbia.

During the 2003/04 school year development work on board authority authorized (BAA) high school courses in two areas of the ECC was initiated by two school districts in British Columbia.

A group of teachers in Vancouver developed Braille course outlines at the grade 10, 11 and 12 level and a group of teachers in the Okanagan developed BAA course outlines at the grade 11 and 12 level in orientation and mobility. These courses were authorized by Boards/Authorities in 2004, submitted to the Ministry of Education and listed on the British Columbia School Trustees Association (BCSTA) website database of locally developed course offerings <http://www.bcsta.org/baa/>.

In early 2004, the PRCVI (Provincial Resource Centre for the Visually Impaired) and SET-BC (Special Education Technology – British Columbia) began planning and development work on the Expanded Core Curriculum Project (ECC-VI) for secondary students who are blind or visually impaired. The goal of the ECC-VI project was to develop Expanded Core Curriculum Course Outlines in order for courses to be accredited as board authorized, credit courses in British Columbia at the grade 10 -12 level.

In fall 2004, the Provincial Resource Centre for the Visually Impaired (PRCVI) and Special Education British Columbia (SET-BC), in cooperation with BC's teachers of students with visually impaired, formed a steering committee to develop the framework for course outlines(procedure, assessments, learning outcomes, supporting materials and resources) for instruction in areas of the expanded core curriculum.

The steering committee surveyed existing documents related to ECC development in order to identify and prioritize the ECC modules to be developed in the 2004/2005 stage of the project. Anne Wadsworth, provincial outreach coordinator for PRCVI, and Constance McAvoy, projects coordinator for SET-BC, served as the ECC Project coordinators. Dr. Cay Holbrook, professor of the Masters Program for Teachers of the Visually Impaired, University of British Columbia, served as the advisor to the project.

Recommendations from the Steering Committee were recorded and a call for ECC module development was sent out to Vision teachers within British Columbia. Developers were enlisted. Using the framework prescribed by the Ministry of Education, British Columbia, developers completed course outlines containing module overviews, curriculum organizers, resource listings, and instructional time allotments for courses pertaining to the instruction of Skills for Living – VI and Technology – VI course modules. Focus for the ECC-VI course development was on the development of courses modules in specific Technology Skills (ECC-VI-Tech) and Skills for Living (ECC-VI-SFL).

In winter 2005, feedback from content editors was reviewed and revisions to the ECC document were made.

When the BAA course approval process is successfully completed with selected BC school districts, ECC Course documents will be posted on the PRCVI and SET-BC websites. Project information will be shared with interested Organizations and Agencies working with students with visual impairments.

The 2005-2006 school year is the pilot stage for the ECC project with fall 2006-2007 the target date for the ECC course information to be available to all school districts in British Columbia. In future, additional ECC course outline content and resources will be developed for the nine areas of the Expanded Core Curriculum.

About Graduation Requirements for British Columbia and About Board/Authority Authorized Courses

British Columbia Secondary School Graduation Requirements

Students must earn a minimum of 80 credits in order to graduate. Students must complete a minimum of 16 credits at the Grade 12 level, 12 credits in addition to a required Language Arts 12 course. These 12 credits must be from Ministry-authorized or BAA courses.

Schools are responsible for recording all course credits and for reporting that information to the Ministry for transcript production at the end of Grades 10, 11, and 12.

There is no limit to the number of **Board/Authority Authorized Courses** that may be used as part of the 28 credits of electives needed for graduation.

Board/Authority Authorized Courses

In British Columbia, schools boards have a tradition of encouraging development of innovative course offerings in response to local needs and priorities. The Ministry of Education, as well, encourages school boards and independent school authorities to offer locally relevant courses to meet the needs of schools and their communities while providing choice and flexibility for students.

There is no limit to the number of **Board/Authority Authorized Courses** that may be used as part of the 28 credits of electives needed to fulfill the graduation requirements for the Graduation Program, or the 24 credits of Selected Studies requirements needed in the 1995 Program.

Course descriptions for BAA courses that are offered in school districts are listed on the British Columbia School Trustees website at bcsta.org website.

Student Profiles

Teachers of students with visual impairments are encouraged to develop an individual profile of ECC competencies for each student. Recommendations for ECC courses and related modules should be based on the student's individual profile.

The ECC competencies profile may serve as a tool to anticipate course challenges. Checklists for ECC skills competencies are under development and will be included in the appendix of this document.

Course/Module Challenges

Individual students who are blind or visually impaired upon entry into grade 10 vary significantly in the level to which they have acquired skills in the nine ECC-VI areas. In some cases they may have already developed significant competencies in specific areas of the ECC-VI as a result of formal and informal training and experiences in their home, school and community. Similar to other core curriculum courses in the BC high school program, with Board approval, students with blindness or visual impairment have the right to challenge ECC-VI course modules and if successful receive the corresponding high school credits.

It is important to use a variety of checklists with each student to develop an individual profile of ECC competencies. Recommendations for ECC courses and related modules should be based on a student's individual profile.

Expanded Core Curriculum Courses and Credits

Credits refer to the value of a grade 10, 11, or 12 course. The credit value reflects the length and scope of a course. A full course is 4 credits, 100-120 hours. One credit is the value attached to the knowledge, skills, and attitudes that most students can acquire in 30 hours of instruction. Course modules would be selected according to student interest and need and would be dependent on availability of course offerings.

ECC - Technology - VI

CCTV	Grade 10	Credit = .5
Room Viewing	Grade 10	Credit = .2
Screen Magnification	Grade 10	Credit = 1.0
Braille Notetaker with RBD	Grade 10, 11, 12	Credit = 4.0
Operating Systems Modifications	Grade 10	Credit = .5
Screen Reader with RBD	Grade 10, 11, 12	Credit = 3.0

ECC - VI – Technology 10, 11, 12 Overview of Modules

CCTV

	Credits = 0.5	Number of Hours = 10
<ul style="list-style-type: none">▪ Controls and Ergonomics▪ Operate XY Platform▪ Writing an Drawing▪ Using with Computers▪ Care and Maintenance		

Room Viewing

	Credits = 0.2	Number of Hours = 5
<ul style="list-style-type: none">▪ Controls and Ergonomics▪ Scanning and Locating▪ Using with Computers and Other Equipment▪ Care and Maintenance		

Screen Magnification

	Credits = 1.0	Number of Hours = 25
<ul style="list-style-type: none">▪ Magnification and Views▪ Enhancements▪ Keyboard shortcuts▪ Speech options▪ Custom Configuration Files		

Notetakers with Refreshable Braille Display

Level 1	Credits = 1.0	Number of Hours = 25
<ul style="list-style-type: none">▪ Orientation to the Braille Notetaker▪ General Functions▪ Introduction to Menus▪ Basic Word Processing▪ Format Indicators		

Level 2	Credits = 1.0	Number of Hours = 30
<ul style="list-style-type: none">▪ Intermediate word processing▪ Formatting▪ Scientific calculator▪ Printing and Embossing Documents▪ E-text		

Level 3	Credits = 2.0	Number of Hours = 50
<ul style="list-style-type: none">▪ Advanced word processing▪ Specialized feature functions (email, web browser, adv. scientific calculator, day timer, etc.)▪ Advanced formatting		

Operating System Modifications

	Credits = .5	Number of Hours = 10
<ul style="list-style-type: none">▪ OS Magnification▪ OS Appearance▪ Auditory Enhancements▪ Word Processor Appearance		

Screen Readers

Level 1	Credits = 1.0	Number of Hours = 25
<ul style="list-style-type: none">▪ Basic Windows OS Navigation▪ Basic Windows Program Navigation▪ Basic Word Processing▪ Basic Screen Reading▪ Basic JAWS Features▪ Basic File Management		

Level 2	Credits = 1.0	Number of Hours = 25
<ul style="list-style-type: none">▪ Intermediate Windows Skills▪ Intermediate Word Processing▪ Other Applications (encyclopedia, calculator, media player)▪ Internet▪ Intermediate Screen Reading▪ Intermediate JAWS		

Level 3	Credits = 1.0	Number of Hours = 35
<ul style="list-style-type: none">▪ Advanced Windows▪ Other Applications▪ Advanced Internet▪ Advanced Screen Reader Features▪ Advanced File Management		

ECC-VI-Technology 10, 11, and 12 Module Outlines

Includes unit overviews and learner outcomes

Prerequisite(s)

Prerequisites, when required, are listed with individual module

Special Training, Facilities or Equipment Required

The course instructor should be a qualified teacher of the blind and visually impaired who knows Braille. Additional support and/or instruction, where required, is outlined in module descriptions.

Special Considerations for Technology Instruction

The main focus for technology instruction should be student independence. Instructors should ensure that students can demonstrate all technology skills without assistance. In order to be self-sufficient after graduating from High School, the student must acquire skills for independent technology use, problem solving, and life long learning.

It is unlikely that any instructor will be completely proficient in all technology skill areas. To support instruction, resource materials specific to each technology module have been carefully selected. These resources are included at the end of each module. It is also recognized that instructors will not have physical access to all devices or software. In many cases, demo versions are available and have been referenced.

Technology should never be taught for its own sake. Instead, technology should be seen as a tool to accomplish curriculum and real life tasks. Specifically, instruction on Screen Readers should focus on access to mainstream software applications such as MS Office and Internet Explorer.

The responsible and ethical use of technology is also an important component of instruction. This includes respecting copyright, and registering and updating software. Students with visual impairments who use technology need to learn proper care and maintenance of their own equipment.

Course Synopsis

The modules in this course have been developed to support and encourage students who are visually impaired and/or blind to develop the concepts and skills that will provide them with the ability to successfully integrate technology into their work and home life activities. The ECC – VI - TECH course modules have been developed to provide flexibility in meeting the individual needs and interests of students who are blind or visually impaired. In order to provide maximum flexibility, instructional hours for individual modules vary, ranging from 5 to 50 instructional hours. The credits for the ECC-VI TECH course will depend upon the total number of instructional hours of the combination of modules selected. (A sum of 25 to 45 instructional hours for selected modules is a one credit course, 46 to 70 instructional hours is a 2 credit course, 71 to 95 credits is a 3 credit course and 96+ is a 4 credit course.) Some modules skill areas are developmentally sequenced and therefore should be offered sequentially. In summary, at each grade level (10, 11 or 12) the course can be taken for 1, 2, 3 or 4 credits depending upon the number of instructional hours required to complete the selected modules.

The ECC – VI TECH modules address skill areas related to the use of technology for personal productivity at home and at school and work. The course modules address: CCTV, Room Viewing, Screen Magnification, Notetaker with Refreshable Braille Display, and Screen Readers.

Each of these modules compliments aspects of the regular BC high curriculum by addressing the specific additional challenges the blind or visually impaired student faces. The instruction in “regular courses”, for example a Computer Skills course like Word Processing, is not enough to meet the learning needs of most visually impaired students because instruction is based on students’ accessibility to instructional software and mainstream technology. Skills such as those associated with the independent use of technology for personal productivity by persons who are blind or visually impaired, require direct, sequential instruction by trained teachers of students with visual impairment in order to be effective for blind and visually impaired students.

Module: CCTV Controls and Features (10 hours)

Prerequisite: none

Facilities and equipment: Student has access to a stand-alone Closed Circuit Television (CCTV). A CCTV system uses a stand mounted or hand-held video camera to project a magnified image onto a video monitor.

Unit 1 Organizational Structure - Curriculum Organizers

Units	Title	Time
1	Controls and Ergonomics	2
2	Operate XY Platform	2
3	Writing and Drawing	2
4	Using with Computers	3
5	Care and Maintenance	1

Unit 1: CCTV Controls and Features

Overview

This module will give the student opportunities to maximize their functional vision for learning tasks. They will gain independence in the operation of the CCTV for a variety of viewing tasks.

Curriculum Organizer – Controls and Ergonomics

It is expected that students will:

- access, modify, and customize the control settings (colour, contrast, polarity, magnification, focus) for specific tasks
- modify and customize the equipment and seating position for proper ergonomics

Curriculum Organizer – Operate XY Platform

It is expected that students will:

- position materials correctly on the XY Platform
- demonstrate effective use of the XY Platform by tracking and scanning a variety of document types
- examine details of pictures, maps, diagrams, or objects on the XY Platform

Curriculum Organizer – Writing and Drawing

It is expected that students will:

- write and draw on the XY Platform while viewing the monitor

Curriculum Organizer – Using with Computers (as required)

It is expected that students will:

- demonstrate independence in connecting the CCTV and computer
- demonstrate independence in switching between the CCTV and computer
- demonstrate independence in using both simultaneously in split-screen mode

Curriculum Organizer – Care and Maintenance

It is expected that students will:

- demonstrate appropriate security, care, and maintenance of equipment

Module: Room Viewing (5 hours)

Prerequisite: none

Facilities and equipment: Student has access to a Room Viewing system.

Unit 1 Organizational Structure - Curriculum Organizers

Units	Title	Time
1	Controls and Ergonomics	
2	Scanning and Locating	
3	Using with Computers and Other Equipment	
4	Care and Maintenance	

Unit 1: Room Viewing

Overview

This module will give the student opportunities to maximize their functional vision for learning tasks. They will gain independence in the operation of the room viewing system for a variety of distance and intermediate viewing tasks.

Curriculum Organizer – Controls and Ergonomics

It is expected that students will demonstrate ability to:

- access, modify, and customize the control settings for specific tasks
- modify and customize the equipment and seating position for proper ergonomics

Curriculum Organizer – Scanning and Locating

It is expected that students will demonstrate ability to:

- scan a room for landmarks to locate a specific target
- adjust control settings depending on proximity and size of target

Curriculum Organizer – Using with Computers (as required)

It is expected that students will demonstrate independence in:

- connecting the room viewer to a computer and/or other video devices
- switching between the room view to a computer and/or other video devices

Curriculum Organizer – Care and Maintenance

It is expected that students will:

- demonstrate appropriate security, care, and maintenance of equipment

Module: Screen Magnification (25 hours)

Prerequisite: Basic computer skills (installation, menu or toolbar access, troubleshooting)

Facilities and equipment: Student has access to a computer with screen magnification software.

Unit 1 Organizational Structure - Curriculum Organizers

Units	Title	Time
1	Magnification and Views	5
2	Enhancements (Colour, Pointer, Cursor)	5
5	Keyboard Shortcuts	5
4	Speech Options	5
3	Custom Configuration Files	5

Unit 1: Screen Magnification

Overview

Students will explore the features provided by screen magnification software to customize levels of magnification, views, colours, and mouse and cursor enhancements. Students will customize their settings and save these as personal configurations. They will also learn and practice the software's keyboard shortcuts. Students will investigate speech options including screen reading and typing echo.

Curriculum Organizer – Magnification and Views

It is expected that students will:

- access, modify, and customize the magnification and view features for specific tasks

Curriculum Organizer – Enhancements

It is expected that students will:

- access, modify, and customize the colour, pointer, and cursor features for specific tasks

Curriculum Organizer – Keyboard Shortcuts

It is expected that students will:

- Learn and use the software's keyboard shortcuts proficiently
- Customize keyboard shortcuts as required

Curriculum Organizer – Speech Options

It is expected that students will:

- Explore software speech options including typing echo and screen reading
- Customize speech options as required

Curriculum Organizer – Custom Configuration Files

It is expected that students will:

- Save their personal software settings as a new default
- Customize software settings for specific applications

Module: Screen Magnification: Resources

Web Resources

AT Basics

<http://atto.buffalo.edu/registered/Tutorials.php>

The tutorials provide step by step instruction and practice exercises to be used with the actual products. Each tutorial is designed into modules with specific tasks.

Microsoft Accessibility

<http://www.microsoft.com/enable/training/windowsxp/default.aspx>

Microsoft provides step by step tutorials using the accessibility utilities. Using the accessibility wizard, one can learn to set options to view the screen.

Adaptive Technology Resource Center

<http://www.utoronto.ca/atrc/tutorials/tutorials.html>

This website provides a list and descriptions of different screen magnification and CCTV products.

Tech connections – AT Quick Reference Guide for Computer Magnification

<http://www.techconnections.org/resources/guides/magnify-LP>

This website addresses general questions in regards to computer magnification. It provides a list of information and product resources.

Computing @ UW Madison

<http://www.doit.wisc.edu/accessibility/video/index.asp>

This website offers a short video of two visually impaired people demonstrating how to navigate the web using Zoomtext.

Texas School for the Blind and Visually Impaired

<http://www.tsbvi.edu/>

Access the technology department by clicking on Technology located on the right column of the site. While in the technology section, do a site search for Screen Magnification. There is a comprehensive list of information pages, assessments, guides and articles pertaining to screen magnification.

SET BC – Special Education Technology BC

<http://www.setbc.org>

In the Learning Center, guides, webcasts, tutorials and software demonstrations about screen magnification can be found.

- [VI Technology Guide 1998, Section 3](#)
- [ALT-VI – Access to Literacy through Technology for Persons with Visual Impairments \(2003\)](#)
 - Webcast – Screen Magnification Using Zoomtext
 - Tutorials- Screen Magnification
 - Software Demonstrations/Screen Captures – Zoomtext 8.0
 - [Zoomtext 8.0 - Tips and Tricks](#)

Training Guidelines – Writing Aids- Screen Magnification

Karen McCall

<http://www.iprimus.ca>

This resource combines the skills of a screen magnification and wordprocessor into a checklist.

Text Resources

Sue Bernardo, [Introduction to Screen Magnification Technology](#), AFB

[Foundations of Education Second Edition- Volume II Instructional Strategies for Teaching Children and Youths with Visual Impairments](#), Alan J. Koenig, M. Cay Holbrook, AFB, 2000

Module: Braille Notetaker with Refreshable Braille Displays Level 1 (25 hrs)

Organizational Structure

Note: There are currently three levels of instruction on the Braille Notetaker. It is anticipated that a fourth module, pertaining to add-ons including GPS systems, will be developed in the future.

Unit / Topic	Title	Time
Unit 1	Orientation to the Braille Notetaker navigation keys Braille display routing cursor keyboard peripheral ports	2
Unit 2	General Functions speech settings	1
Unit 3	Introduction to Menus word processor menu Options menu	8
Unit 4	Basic Wordprocessing create a new document edit a document navigating	12
Unit 5	Format Indicators common indicators	2

Unit 1: Module/Unit Name: Orientation to the Braille Notetaker

Overview

This unit will focus on familiarizing the student with the layout of the note taking device including the keyboard, the navigation keys, the Braille display, routing cursor and the peripheral ports.

Curriculum Organizer – Navigation Keys

Learning Outcomes

It is expected that students will be able to:

- use the navigation keys to navigate through menus and lists (Previous, Back, Advance, Next)

Curriculum Organizer – Braille Display

Learning Outcomes

It is expected that students will be able to:

- turn the Braille display on and off
- use the Braille display in conjunction with the navigation keys to read prompts and documents and to navigate through menus

Curriculum Organizer –Cursor Routing

Learning Outcomes

It is expected that students will be able to:

- recognize and locate the cursor routing keys
- use the-cursor routing keys when editing

Curriculum Organizer - Keyboard

Learning Outcomes

It is expected that students will be able to:

- use keyboard to execute commands for navigation

Curriculum Organizer – Peripheral Ports

Learning Outcomes

It is expected that students will be able to:

- locate ports to connect hardware (AC adaptor, printer, embosser, disk drive, earphones)
- locate the on/off switch and the reset button

Unit 2: Module/Unit Name: General Functions

Overview

This unit will teach the student to adjust the speech setting for individual preferences.

Curriculum Organizer – Speech Settings

Learning Outcomes

It is expected that students will be able to:

- turn speech on and off
- change speech volume, pitch and rate
- adjust echo

Unit 3: Introduction to Menus

Overview

The student will explore and navigate through the word processing menu and the options menu to learn to apply and practice the basic features of the word processing program.

Curriculum Organizer – Word Processing Menu

Learning Outcomes

It is expected that students will be able to:

- access the word processing menu
- perform the following tasks; create, open, emboss, and print a document

Curriculum Organizer – Options Menu

Learning Outcomes

It is expected that students will be able to:

- customize their notetaker for personal use (date/time, speech setting, grade of Braille)

Unit 4: Basic Word Processing

Overview

This unit will give the student further practice in using the word processor menu. to learn basic word processing skills such as creating and editing documents and deleting and inserting text. Students will also learn how to move within their document.

Curriculum Organizer – Create a New Document

Learning Outcomes

It is expected that students will be able to:

- from the main menu go to the word processor option and select either; create, save, emboss or print a document

Curriculum Organizer – Edit a Document

Learning Outcomes

It is expected that students will be able to:

- insert a character, word, sentence or any amount of text
- learn the various delete commands (current character / word, last character, previous word, sentence, paragraph or document)

Curriculum Organizer - Navigating

Learning Outcomes

It is expected that students will be able to:

- move the cursor to the top and bottom of a document
- read a document by; character, word, sentence or continuous text

Unit 5: Format indicators

Overview

The student will learn the basic commands to begin formatting their documents. They will also be taught to recognize these common indicators on the Braille display.

Curriculum Organizer - Common Indicators

Learning Outcomes

It is expected that students will be able to:

- indicate the start of a new paragraph
- indicate the start of a new page

Braille Notetaker with Refreshable Braille Displays Level 2 (30 hours)

Organizational Structure

Unit / Topic	Title	Time
Unit 1	Intermediate Word Processing <ul style="list-style-type: none">• creating files and folders• editing (spell check, block text)	10
Unit 2	Formatting <ul style="list-style-type: none">• formatting a document in both Braille and print (centre, justify, underline, font, page numbers, margins, paragraphs and headings)	10
Unit 3	Scientific Calculator <ul style="list-style-type: none">• introduction	5
Unit 4	Printing and embossing documents <ul style="list-style-type: none">• connecting to hardware devices	1
Unit 5	E-text <ul style="list-style-type: none">• access e-text (internet, scanning, disk, etc.)	4

Unit 1: Intermediate Word Processing

Overview

This unit will teach the student how to organize and edit their documents. They will learn more advanced word processing skills using the spellchecker feature of the Braille Notetaker. They will also learn the block commands necessary to manipulate text.

Curriculum Organizer – Creating Files and Folders

Learning Outcomes

It is expected that students will be able to:

- create, rename, and delete files and folders (by using the file manager menu and folder manager menu)

Curriculum Organizer - Editing

Learning Outcomes

It is expected that students will be able to:

- open and close the check spelling feature
- apply the features of the spellchecker to edit a document (correct word, add word to the dictionary, skip, ignore, look up word in the dictionary)
- manipulate blocks of text (mark a passage to copy, move or delete)

Unit 2: Module/Unit Name: Formatting a Braille Document for Ink Printing

Overview

This unit will teach the student some elements of page layout necessary for both print and Braille documents. These will include skills such as centering, left justifying, underlining, font, page numbers, and setting margins. They will also learn to create headings and subheadings.

Curriculum Organizer - Formatting

Learning Outcomes

It is expected that students will be able to:

- format a Braille document
- format a Braille document for ink printing (centre, page number, etc.)

Unit 3: Module/Unit Name: Scientific Calculator

Overview

This unit will teach the student how to perform basic math operations using the calculator feature.

Curriculum Organizer – Introduction to Basic Math Operations

Learning Outcomes

It is expected that students will be able to:

- add, subtract, multiply, and divide using the features of the scientific calculator

Unit 4: Module/Unit Name: Printing and Embossing Documents

Overview

This unit focuses on giving the student experience connecting their portable device to other hardware devices such as a print printer, Braille embosser, and a computer.

Curriculum Organizer – Connecting to Hardware Devices

Learning Outcomes

It is expected that students will be able to:

- connect the Braille note taker to a Braille embosser, ink printer and computer

Unit 5: Module/Unit Name: E-text

Overview

This unit will teach the student to open, read, and save electronic material.

Curriculum Organizer – Access E-text

Learning Outcomes

It is expected that students will be able to:

- open, read, and save electronic material

Braille Notetaker with Refreshable Braille Displays Level 3 (50 hours)

Organizational Structure

Unit / Topic	Title	Time
Unit 1	Advanced Word Processing <ul style="list-style-type: none">file management (selecting files, folders and drives; check spelling of files and folders; copy files; protect files)	5
Unit 2	Specialized feature functions <ul style="list-style-type: none">e-mail (and attachments)web browseradvanced scientific calculatorday timer (planner)address lists	25
Unit 3	Advanced Formatting <ul style="list-style-type: none">Braille (layout, page setting, etc.)print (bibliography, letters, resumes, outlines, etc.)	20

Unit 1: Module/Unit Name: Advanced Word Processing

Overview

This unit will teach the student how to organize and access files and folders efficiently. They will also learn to copy and protect files.

Curriculum Organizer – File management

Learning Outcomes

It is expected that students will be able to:

- select files, folders and drives
- check spelling of files and folders
- copy files
- protect files

Unit 2: Module/Unit Name: Specialized Feature Functions

Overview

This unit introduces e-mail, web browsing, advanced features of the scientific calculator, day timer and address lists. The student will learn to communicate with e-mail and search the internet. Students will learn to organize their day using a day timer and create address lists.

Curriculum Organizer – E-mail

Learning Outcomes

It is expected that students will be able to:

- download and read e-mail (new and stored)
- write and send e-mail (including forwarding and attachments)
- create folders to store messages
- set up address lists

Curriculum Organizer – Web Browser

Learning Outcomes

It is expected that students will be able to:

- browse the web using a search engine
- download files
- add favourites
- handle on-line forms

Curriculum Organizer – Advanced Scientific Calculator

Learning Outcomes

It is expected that students will be able to:

- perform trigonometric, logarithmic, and exponential functions
- work with squares, square roots, powers, and roots

Curriculum Organizer – Day Timer (Planner)

Learning Outcomes

It is expected that students will be able to:

- enter appointments
- reschedule appointments
- set audible alarm with any appointment

Curriculum Organizer – Address Lists

Learning Outcomes

It is expected that students will be able to:

- create address lists with names, phone numbers and other data
- apply features of the address list (search names and addresses, edit, delete, insert into document, etc.)

Unit 3: Module/Unit Name: Advanced Formatting

Overview

The student will use layout features to produce a quality finished product.

Curriculum Organizer - Braille

Learning Outcomes

It is expected that students will be able to:

- use layout features (tabs)
- apply layout indicators
- adjust page settings (paper length and width, margins)

Curriculum Organizer - Print

Learning Outcomes

It is expected that students will be able to:

properly format bibliographies, letters, resumes, outlines, etc.

Module: Braille Notetakers with Refreshable Braille Displays: Resources

Web Resources

California School for the Blind

<http://www.csb.cde.gov>

California school for the Blind.> Technology Curriculum Guide>Braille Note Curriculum Guide in MS format (new March 2004)

Also Free CD available. Phone# (510) 794-3800 X 312

CD contains Curriculum Guides, training files and practice exercises.

Electronic Aids for the Blind

www.eabnet.org.uk/technology/braille/noteshtm_ak

This site lists quite a few Braille note takers had has extensive list of tutorials on windows (e.g. file and folders management, explorer, e-mail etc.).

Freedom Scientific

www.freedomscientific.com/fs_support/doc_accessiblepda.asp

This site has User's Guide and Quick Start Guide, PAC Mate specific

SET BC - Special Education Technology BC

<http://www.setbc.org>

In the Learning Center, > Vision Classroom, ALT.VI>Access to Literacy Through Technology For Persons with Visual Impairment>Tutorial>Sec. 3> Braille Note Takers (PDF download)

SNOW - Special Needs Opportunity Windows

<http://snow.utoronto.ca/tecnology/tutorial>

Braille Note takers are listed under Refreshable Braille Display > Note Takers for people with visual disabilities.

Only tutorial it has is on **Braille Note GPS**, it's an MP3 file, 45 minutes long.

Texas School for the Blind and Visually Impaired

<http://www.tsbvi.edu/>

click on : Technology > VI Technology Training > Specific Device Information > video tutorial Braille Note.

➤ Text Tutorial Braille Note.University of Buffalo

The tutorials provide step by step instruction and practice exercises to be used with the actual product. Each tutorial is designed into modules with specific tasks.

Module: Operating System Modifications (10 hours)

Prerequisite: none

Facilities and equipment: Windows computer

Units	Title (Curriculum Organizers)	Time (hours)
1	OS Magnification (OS Magnification vs Screen Magnification Software, Magnifier)	1
2	OS Appearance (Accessibility Wizard, Display Control Panel, Mouse Control Panel, Start Menu, Folder Views)	5
3	Auditory Enhancements (Narrator, Alerts, Special Key Notifications)	2
4	Word Processor Appearance (Text, Customize Menu Items and Tool Bars, Disable Auto Features)	2

Unit 1: Operating System Magnification

Overview: In this unit, instructors will assist students in determining whether the magnification options in the Windows OS are sufficient to meet their needs. Students will also learn how to operate Windows Magnifier.

Curriculum Organizer – OS magnification vs Screen Magnification software

It is expected that students will:

- Understand whether screen magnification software is necessary based on the results of their functional vision assessment
- If using screen magnification software, make all changes to the screen and mouse pointer appearance using that software instead of making the changes in Windows

Curriculum Organizer – Magnifier

It is expected that students will:

- Know how to locate and run Magnifier
- Know how to set the magnification level, tracking options and colours
- Know how to change the size and position of the magnification windows
- Know the shortcut keys for the Magnifier program

Unit 2: OS Appearance

Overview: In this unit, students will set visual enhancements using the Accessibility Wizard, the Display Control Panel, and the Mouse Control Panel. They will also customize the Start Menu and their Folder View Options.

Curriculum Organizer – Accessibility Wizard

It is expected that students will:

- Understand that a Wizard allows you to make changes within a few preset options
- Find and run the Wizard
- Make appropriate selections for mouse pointer and screen appearance
- Understand that Wizard settings correlate to the Control Panel Display, Mouse, and Accessibility settings
- Know how to cancel Wizard settings by going to the Display control panel and selecting Windows XP style (in the Appearance tab)

Curriculum Organizer – Display Control Panel

It is expected that students will:

- Understand that the Display control panel allows you to fully customize the appearance of the screen
- Understand changes made using the Wizard or the Display control panel cannot be reset by a general default button
- Document all changes made using the Wizard or the Display control panel
- Locate and open the settings in the Display control panel
- Know how to right click on a dialogue box item to get its description
- On the Appearance tab select either Windows XP or Windows Classic style
- On the Appearance tab select a colour scheme
- On the Appearance tab select a font size
- On the Appearance tab make appropriate changes within the Effects dialogue box
- On the Appearance tab customize the appearance of individual items (e.g. menus, title bars, scroll bars, selected text)
- On the Appearance tab know how to adjust horizontal and vertical icon spacing to avoid truncated titles

Curriculum Organizer – Mouse Control Panel

It is expected that students will:

- Locate and open the Mouse control panel
- On the Pointers tab of the Mouse properties dialogue box select the appropriate pointer scheme
- On the Pointer options tab, adjust motion, snap to, and visibility options

Curriculum Organizer – Start Menu

It is expected that students will:

- Access the Start Menu properties by right clicking on the Start Menu
- Customize the appearance of the Start menu (icon size and number) in either XP or Classic view
- Be able to add frequently used programs to the Start Menu in Classic view

Curriculum Organizer – Folder Views

It is expected that students will:

- Set the view for any folder to List or Details using the View menu for that folder
- Optionally remove left pane from folders by choosing the Tools menu / Folder Options / General / Use Windows Classic folder
- Optionally select which details to show in Details view by choosing the View menu / choose details
- Optionally sort files by name, size, type or date modified in Details view by opening the View menu / “Arrange Icons by”
- Apply the List or Details view for one folder to all folders in Folder Options under the Tools menu (View tab) in any open folder

Unit 3: Auditory Enhancements

Overview: In this unit, student will learn to operate Windows Narrator. They will also learn to set volume levels, Windows Alert Sounds, and Special Key Notifications.

Curriculum Organizer – Narrator

It is expected that students will:

- Locate and run the Narrator program
- Configure Narrator options in the Narrator dialogue box
- Adjust the speed, volume or pitch of the Narrator program
- Stop Narrator by pressing the Control key
- Know how to have Narrator read menus and List views using the arrow keys
- Understand the limitations of Narrator especially typing echo and accurate menu reading
- Know how to exit Narrator

Curriculum Organizer – Volume, Alerts and Special Key Notifications

It is expected that students will:

- Locate and adjust the volume control in the Taskbar
- Locate and open Sounds and Audio Devices Control Panel
- Optionally assign alert sounds to Windows events such as start and exit Windows and low battery
- Optionally turn on auditory notifications if using Sticky keys or Filter keys in the Accessibility Options control panel

Unit 4: Word Processor Appearance

Overview: In this unit, students will learn how to adjust text appearance. They will also customize menu items and toolbars and optionally disable auto features.

Curriculum Organizer – Text appearance

It is expected that students will:

- Change the font,
- Change the size of the text
- Change the zoom level

Curriculum Organizer – Customize Menu Items and Toolbars

It is expected that students will:

- Know how to open the Customize dialogue box in the Tools menu
- Determine which toolbars to show (Toolbars tab)
- Determine which commands to show on menus or toolbars (Commands tab)
- Know how to activate full menus (Options tab)
- Know how to activate large icons (Options tab)

Curriculum Organizer – Disable auto features

It is expected that students will:

- Review the auto correct options in Tools / Auto correct options / Auto Format and also Auto Format As You Type
- Optionally disable Auto correct features
- Optionally disable auto format as you type (such as numbered and bulleted lists)

Module: Operating System Modifications Resources

Windows OS Resources:

Windows Help

Windows Help and Support is located in the Start Menu. Type keywords such as “Accessibility Wizard”, “Narrator”, “Magnifier” in the Search field. Alternatively, select the Accessibility link under Pick a Help Topic.

Web Resources

<http://www.microsoft.com/enable/training/windowsxp/default.aspx>

Windows provides step-by-step tutorials for using accessibility utilities such as Accessibility Wizard, Magnifier, and Narrator. Advanced users may wish to explore the internet customization section.

Module: Screen Readers with Braille Display

Prerequisite: none

Facilities and equipment: Computer with JAWS screen reader and Braille Display (recommended).

Screen Reader Level 1 (25 hours)

Units	Title (Curriculum Organizers)	Time (hours)
1	Basic Windows Navigation (Desktop, Taskbar, Start Menu)	3
2	Basic Windows Application Navigation (Menu, Dialogue Boxes, Parts of a Window)	5
3	Basic Word Processing (New, Open, Save, Print, Editing, Simple Format, Spellcheck)	7
4	Basic Screen Reading (Windows and Screen Reading)	3
5	Basic JAWS Features and Parameters (Voice, Verbosity, Speed, Echo, Contextual Help, Keyboard Help, HJ Pad)	3
6	Basic File Management (Folders, Explorer)	4

Unit 1: Basic Windows Navigation

Unit Overview: In this unit, students will explore a variety of ways to access the Desktop, Taskbar, and Start Menu. They will also learn to perform some basic task such as checking the time, volume, and laptop battery level and restarting or shutting down the computer.

Curriculum Organizer – Desktop

It is expected that students will be able to:

- Use JAWS Virtual Viewer (contextual help) for cues about navigating specific environments
- Navigate the Desktop
- Minimize all open windows and put focus back on the Desktop

Curriculum Organizer - Navigate the Taskbar

It is expected that students will be able to:

- Navigate on the Taskbar
- Access the Window List of running applications
- Access the System Tray List
- Check the time
- Adjust the computer sound level
- Check the computer battery level (laptops only)
- Switch between open applications and windows

Curriculum Organizer - Navigate the Start Menu

It is expected that students will be able to:

- Access the Start Button
- Navigate Start Button menus and submenus
- Launch programs from Start Menu
- Discover and use underlined letters as hot keys
- Shut down or restart the computer
- Understand that the Start Menu can be customized

Unit 2: Basic Windows Application Navigation

Unit overview: In this unit, students will learn to access basic features which are consistent across most Windows applications. These include standard ways of accessing application windows, menus, and dialogue box controls.

Curriculum Organizer – Working in a Window

It is expected that students will be able to:

- Access title bar and status line of a window
- Access Application Control Menu to maximize, minimize, restore and close windows
- Access and navigate on the menu bar
- Navigate menus and submenus
- Discover and use underlined letters and hot keys for menu items
- Set Views for a window

Curriculum Organizer – Working in a Dialogue Box

It is expected that students will be able to:

- Use JAWS Contextual Help for information about dialogue box controls and navigation
- Navigate in single and multi-page dialogue boxes
- Understand different types of controls in a dialogue box and how to activate them
- Discover and use underlined letters in a dialogue box
- Use a variety of ways to close a dialogue box
- Track their JAWS knowledge using the practice dialogue boxes in HJ Pad

Unit 3: Basic Word Processing

Unit Overview: In this unit, students will learn to create, open, save and print Word files. They will practice entering text in a file, editing text, and change basic formatting of text.

Curriculum Organizer – Entering Text

It is expected that students will be able to:

- Enter text in an open file
- Adjust JAWS typing echo for the current session using a hot key

Curriculum Organizer – Manipulating Word Processing Files

It is expected that students will be able to:

- Create a new file
- Open an existing file
- Save a file
- Understand the difference between Save and Save As
- Print a file

Curriculum Organizer – Editing

It is expected that students will be able to:

- Select blocks of text and confirm text selection
- Insert, delete, and move text
- Undo editing
- Spellcheck text

Curriculum Organizer – Basic Formatting

It is expected that students will be able to:

- Change font, size, style of text
- Check text attributes
- Change text alignment
- Create new lines and paragraphs
- Change line spacing

Unit 4: Basic Screen Reading

Unit Overview: In this unit, students will practice basic JAWS reading commands.

Curriculum Organizer – Basic Screen Reading

It is expected that students will be able to:

- Use control and arrow keys for reading by character, word, or line
- Move to specific locations on a page (e.g., beginning, end, line, screen, page)
- Use JAWS commands for reading characters, words, lines, sentences, paragraphs or all text
- Silence speech

Unit 5: Basic JAWS Features and Parameters

Overview: In this unit students will learn to set some basic JAWS Options and Parameters such as voice and typing echo. Students will also learn about setting JAWS to start up automatically. They will learn how to ensure that the correct keyboard configuration has been chosen for their computer and how to double check JAWS commands before using them. Students will also learn how to track their progress in learning JAWS in the checklists provided in HJ Pad.

Curriculum Organizer – Launching JAWS

It is expected that students will be able to:

- Set JAWS for automatic start-up

Curriculum Organizer –Virtual Viewer

It is expected that students will be able to:

- Enable Virtual Viewer in the JAWS menu
- Turn Virtual Viewer on and off in a particular environment
- Use Virtual Viewer to receive contextual help about the current working environment
- Use Virtual Viewer to review contextual help information line by line
- Use Virtual Viewer to review all the formatting associated with a page in a Word Document

Curriculum Organizer – Tracking JAWS skills

It is expected that students will be able to:

- Use HJ Pad to keep track of JAWS skills

Curriculum Organizer – Basic JAWS parameters

It is expected that students will be able to:

- Change the JAWS Voice, speed, pitch
- Change the amount of punctuation JAWS reads
- Change the typing echo setting default

Curriculum Organizer – JAWS and the Keyboard

It is expected that students will be able to:

- Choose correct keyboard setting for computer
- Use JAWS keyboard help to check commands before using them

Unit 6: Basic File and Folder Management

Unit Overview: In this unit, students will learn to use Windows Explorer to manage files and folders.

Curriculum Organizer – Windows Explorer

It is expected that students will be able to:

- Launch Windows Explorer through Start Menu or hot key
- Understand how files and folders are organized
- Navigate tree view and list view in Windows Explorer
- Select contiguous and non-contiguous files or folders in a list and verify that the correct items have been chosen
- Create, move and delete files or folders
- Rename files or folders

Screen Readers Level 2 (25 hours)

Units	Title (Curriculum Organizer)	Time in hours
1	Intermediate Windows Skills (Find, Recycle Bin, Send To, Creating Short Cuts and Hot Keys)	4
2	Intermediate Word Processing (Tables, Thesaurus, Intermediate Formatting)	5
3	Other Applications (Encyclopedia, Calculator, Windows Media Player)	3
4	Internet (Safety, Internet Explorer, Email, Surfing, Links List, Forms, Virtual Cursor)	10
5	Intermediate Screen Reading (JAWS and PC Cursor Routing, restricting JAWS cursor)	1
6	Intermediate JAWS (Keyboard Manager, JAWS Help)	2

Unit 1: Intermediate Windows Skills (Find, Recycle Bin, Send To, Creating Short Cuts and Hot Keys)

Unit Overview: In this unit students will develop intermediate Windows skills for launching programs by hot key, and finding, deleting, and rearranging files and folders.

Curriculum Organizer – Using Windows Find

It is expected that students will be able to:

- Launch Windows Find
- Locate files and folders
- Access Status Line to hear Find results

Curriculum Organizer – Recycle Bin

It is expected that students will be able to:

- Delete documents in a variety of ways
- View documents in the Recycle Bin
- Recover deleted documents
- Empty the Recycle Bin
- Check the drive space currently allocated to the Recycle Bin using the JAWS cursor

Curriculum Organizer – Send To

It is expected that students will be able to:

- Use the Send To command in the Context Menu to send email and email attachments
- Use the Send To command in the Context Menu to send copies of files to specific locations
- Understand that the Send To menu can be customized

Curriculum Organizer – Short Cut Keys

It is expected that students will be able to:

- Create Short Cuts on the Desktop
- Create Hot Keys for JAWS and other Desktop Short Cuts to quickly open applications, files, or folders

Unit 2: Intermediate Word Processing (Tables, Thesaurus, Intermediate Formatting)

Unit overview: In this unit, students will develop intermediate Word processing skills including using the Thesaurus, creating tables, and apply heading styles.

Curriculum Organizer

It is expected that students will be able to:

- Create Word tables
- Navigate Word tables
- Type text in Word tables
- Add or delete columns and rows in Word tables
- Access JAWS Contextual Help for special help with Word tables

Curriculum Organizer - Thesaurus

It is expected that students will be able to:

- Use the Word Thesaurus

Curriculum Organizer – Intermediate Formatting

It is expected that students will be able to:

- Apply styles such as headings in Word
- Select special blocks of text, e.g. from beginning of document to cursor
- Use JAWS Keyboard Manager to explore special formatting options in Word
- Understand how applying styles differs from applying the parameters individually and why it is essential to use styles for documents to be exported to Duxbury

Unit 3: Other Applications (Encyclopedia, Calculator, Windows Media Player)

Unit Overview: In this unit, students will access encyclopedia and Windows calculator using application specific keystrokes listed in JAWS Keyboard Manager. The student will optionally learn to create playlists and listen to music using Windows Media Player.

Curriculum Organizer – Encyclopedia

It is expected that students will be able to:

- Use the JAWS Keyboard Manager to discover and apply special keystrokes available for Encyclopedia applications (e.g. Groliers)
- Use the Encyclopedia index
- Read Encyclopedia articles
- Copy and paste information from Encyclopedia articles to Word

Curriculum Organizer – Calculator

It is expected that students will be able to:

- Use the JAWS Keyboard Manager to discover and apply special keystrokes available for the Windows Calculator

Curriculum Organizer – Windows Media Player

It is expected that students will be able to:

- Operate typical controls for listening to music on the hard drive or on music CD's
- Operate typical controls for listening to and navigating within audio books in .wav or .mp3 format

Unit 4: Internet (Safety, Internet Explorer, Email, Surfing, Links List, Forms, Virtual Cursor)

Unit Overview: Students will develop their Internet skills in this unit to send and receive email, search online, navigate and download web pages and optionally chat online. They will develop an understanding of the different types of JAWS cursors.

Curriculum Organizer – Internet Safety

It is expected that students will be able to:

- Understand safe use of Internet

Curriculum Organizer – Internet Explorer

It is expected that students will be able to:

- Navigate menus in Internet Explorer
- Create and edit Favorites
- Set home page

Curriculum Organizer – Email

It is expected that students will be able to:

- Read and send email using Outlook Express
- Maintain and address book in Outlook Express

Curriculum Organizer – Surfing the Internet

It is expected that students will be able to:

- Go to a particular web page
- Navigate on a web page
- Access the links list for a web page
- Conduct an Internet search
- Understand Forms Mode and turn it on and off
- Understand the difference between JAWS Cursor, PC Cursor, and Virtual Cursor
- Download a web page as a text or html file for later use
- Download items from the Internet

Unit 5: Intermediate Screen Reading (JAWS and PC Cursor Routing)

Unit Overview: Students will further develop their understanding of JAWS cursors in this unit. Students will also learn to use the Virtual Viewer to acquire additional information about the reading environment and to have better control over the information JAWS is providing.

Curriculum Organizer – JAWS and PC Cursor Routing

It is expected that students will be able to:

- Understand the difference between JAWS and PC Cursor
- Turns JAWS and PC Cursor on and off
- Route JAWS to PC and PC to JAWS Cursor

Curriculum Organizer – Restrict JAWS cursor

It is expected that students will be able to:

- Understand why it is important to be able to restrict the JAWS cursor
- Activate 4 restriction levels for the JAWS cursor (application window, current window, frame restriction, no restriction)

Unit 6: Intermediate Screen Reader Features (Keyboard Manager, JAWS Help)

Unit Overview: Students will learn to use JAWS Keyboard Manager and Help in this unit.

It is expected that students will be able to:

- Understand the function of Keyboard Manager and how to access the key commands for a specific application
- Navigate the tree structure in Keyboard Manager
- Navigate JAWS Help

Screen Reader Level 3 (35 hours)

Units	Title (Units)	Time
1	Advanced Windows (Customize Start Menu, Program and peripherals installation, Control Panel, Troubleshooting using Device Manager, Customize Send To)	10
2	Other Applications (Spreadsheets, Presentation Software,)	10
3	Advanced Internet (Setting up an internet connection, Understanding the organization of a web page i.e. Headings, Frames, using JAWS Find, Old Versions)	5
4	Advanced Screen Reader Features (Understanding the JAWS Configuration Manager, Understanding scripts, Installing application specific scripts)	8
5	Advanced File Management (DOS)	2

Unit 1: Advanced Windows

Unit Overview: In this unit, students will explore advanced Windows features such as adding items to the Start Menu, installing and configuring programs, understanding the items in the Control Panel, and troubleshooting peripheral devices using the device manager

Curriculum Organizer – Customizing the Start Menu

It is expected that students will be able to:

- Add items to the Start Menu
- Remove items from the Start menu
- Add or remove cascading submenus to items in the Start menu

Curriculum Organizer – Program and peripherals installation

It is expected that students will be able to:

- Use Add/Remove Programs Control Panel to add and remove applications
- Use the JAWS cursor to read installation instructions
- Understand and choose from different installation options
- Navigate installation dialogue boxes should they appear
- Monitor the installation progress

Curriculum Organizer – The Control Panels

It is expected that students will be able to:

- Open, navigate, make and apply changes (as necessary) to the following Control Panel items: Accessibility Options, Date and Time, Display, Folder Options, Security Centre, Sounds and Audio Devices
- Use Printer and Faxes Control Panel to install a printer
- Use Scanner and Camera Control Panel to install a scanner

Curriculum Organizer – Device Manager

It is expected that students will be able to:

- Locate and open the Device Manager within the System Control Panel
- View devices, expanding the list as necessary
- Open the “Properties” dialogue box associated with each device
- Check the status of a device using the JAWS cursor
- Reinstall drivers if necessary

Curriculum Organizer –Customizing Send To command

It is expected that students will be able to:

- Add destinations to the Send To command
- Delete destinations from the Send To command

Unit 2: Using Other Applications

Unit Overview: In this unit, students will learn keyboard commands specific to productivity applications such as database and presentation software. They will learn how to create and navigate in a database. Students will also learn to create a visually pleasing presentation, and deliver the presentation.

Curriculum Organizer – Database software

It is expected that students will be able to:

- Understand a matrix and how to navigate to a particular location
- Move between fields or cells by column or by row
- Insert text into fields
- Create and access titles for columns and rows
- Sort fields alphabetically and numerically in ascending and descending order
- Use JAWS Keyboard Manager to find key command specific to the software program
- Use the program’s Help files

Curriculum Organizer – Presentation software

It is expected that students will be able to:

- Use the program's template layouts and transitions to create visually pleasing slides
- Add, delete, and rearrange slides
- Insert graphics and sound files into presentations
- Navigate between slide, outline, and notes view
- Deliver a presentation
- Use JAWS Keyboard Manager to find key command specific to the software program
- Use the program's Help files

Unit 3: Advanced Internet

Unit Overview: In this unit, students will learn how to set up an internet connection. They will also learn how web pages are organized, including headers and frames.

Curriculum Organizer – Internet Connection

It is expected that students will be able to:

- Connect a computer to the internet (Windows 98) using Network Neighbourhood
- Use the Network Connection Wizard to connect a computer to the internet (Windows XP)

Curriculum Organizer – Web page organization

It is expected that students will be able to:

- Understand the purpose and importance of headers on a web page
- Navigate a web page using the Headings List dialogue box
- Understand the purpose and importance of frames on a web page
- Navigate a web page using the Frames List dialogue box

Curriculum Organizer – JAWS Find

- Use JAWS Find to locate specific text on a web page

Curriculum Organizer –Old Versions

It is expected that students will be able to:

- Know where to find old versions of programs (e.g. Messenger) if new versions are incompatible with JAWS
- Download and install old versions from the Internet

Unit 4: Advanced Screen Reader Features

Unit Overview: In this unit, students will learn about the JAWS Configuration Managers which control the JAWS program. They will understand the concept of scripts, and learn how to install application specific scripts. Students will also learn to run JAWS from the System Tray.

Curriculum Organizer – JAWS Managers

It is expected that students will be able to:

- Understand the purpose of the Configuration Manager
- Use Virtual Viewer and JAWS Help to explore the functions of all items in the “Set Options” menu
- Make changes in the “Set Options” menu to customize the program
- Save changes in the Configuration Manager
- Understand the difference between the default Configuration file and application specific Configuration file

Curriculum Organizer – Scripts

It is expected that students will be able to:

- Understand the purpose of scripts
- Download application specific scripts
- Install application specific scripts into the Enu Folder
- Use application specific key commands as per the scripts that were installed

Curriculum Organizer –Run JAWS from System Tray

It is expected that students will be able to:

- Understand the purpose of running JAWS from the System Tray
- Set JAWS to run from System Tray
- Navigate special JAWS menu structure

Unit 5: Advanced File Management

Unit Overview: In this unit, students will learn basic DOS conventions including path statements and extensions. Students will learn how to use DOS to execute common word processing commands.

Curriculum Organizer – DOS (Disk Operating System)

It is expected that students will be able to:

- Understand the concept of a “path” using DOS
- Change folder options so that Windows displays file extensions
- Use a DOS path statement to save a file to a folder
- Use a DOS path statement to open a folder
- Use a DOS path statement to open a file
- Identify common file extensions and understand their association with the program(s) they refer to. Common extensions will include: .exe, .txt, .doc, .xls, .ppt, .jpg, .kes .wav, and .mp3

Module: Screen Readers : Resources

Freedom Scientific

www.hj.com

JAWS ships with a basic training tutorial on tape and several Quick Reference Cards and User Manual. When using the software, the student has both Contextual Help and extensive online Help available. In addition, HJ Pad, installed with JAWS, is a word-processor with sample dialogue boxes that the student can use to help practice and track JAWS skills.

MP3 and text transcripts of the basic JAWS training tape and Internet practice pages are available on the Freedom Scientific Website at www.hj.com for JAWS version 6 and under. These tutorials are available in DAISY format for JAWS version 6 and higher.

Taped tutorials for specialty topics such as Power Point, Excel, Word, Word Perfect, Internet Explorer, Outlook, Eudora, Sound Forge, etc. are available for purchase from Freedom Scientific and its vendors.

California School for the Blind

<http://www.csb-cde.ca.gov/>

The downloadable tutorial on this site covers computer skills for both low vision and blind users. There are 19 lessons in the tutorial covering topics such as Windows desktop, Word 2002, and Internet.

From the home page, follow the Technology Program – Updated Curriculum Guides link and then the link to the Basic Computer Curriculum Guide in MS Word Format, updated in March 2004.

High Tech Center Training Unit of the California Community Colleges

www.htctu.fhda.edu/trainings/manuals/tutorials/readweb/start.htm:

This site provides a tutorial with online practice. The JAWS commands are given for the Desktop number pad keyboard rather than the laptop. Topics include general reading commands and reading web pages including tables, forms, frames, reformatting web pages, and reading .pdf documents.

Iowa Department for the Blind

<http://www.blind.state.ia.us/assist/>

Taped and print tutorials are available for a nominal fee at this site. JAWS tutorials include JAWS with XP and ME, Word, Outlook, Eudora, Excel, Power Point, and FrontPage.

On the home page under Tutorials, see List of Tutorials.

JFWLITE

<http://www.jfwlite.com/>

This website contains many links to helpful information about using JAWS with a wide variety of programs. It also provides links to JAWS training and tutorials. It also provides scripts to make many programs accessible to the JAWS user.

SET-BC

<http://www.setbc.org/>

California School for the Blind (SET-BC home page/Learning Centre/Main Library/click the index letter C)

Downloadable tutorials include the Basic Computer Curriculum Guide for low vision and blind students, Windows Setup for a Blind Student, and Windows Media Player 9.

JAWS 3.7 with Windows: XP Setup (SET-BC home page/Learning Centre/Main Library/click the index letter J)

This short tutorial shows how to convert Windows XP to the Windows Classic desktop style which works better with JAWS. The setup information is still valid for later versions of JAWS.

JAWS 5.1 with Windows XP Tutorial (SET-BC home page/Learning Centre/Main Library/click the index letter J)

This 50 page tutorial contains 25 lessons, each addressing a specific aspect of JAWS. Topics include using JAWS with Windows, Word, and the Internet.

ALT-VI Access to Literacy Through Technology for Persons with Visual Impairments (2003) (SET-BC home page/Learning Centre/Vision Building/Vision Classroom/click the index letter A)

This resource contains web casts, demos and downloadables from an all-day conference presentation by SET-BC Staff. Section 4 on Screen Readers contains several helpful resources specific to JAWS. These include Windows from the Keyboard Mouse Free, Word and JAWS, E-Text and JAWS, JAWS and Internet, and Online Help for JAWS.

Teddy's Centre for the Blind

<http://teddy.fcc.ro/cgi-bin/index.cgi>

The JAWS Manuals link on this website has many tutorials that address specific topics. These appear to be copies of the free Freedom Scientific training tutorials. The JAWS Scripts link on this website take you to JAWS scripts for older versions. Under Programs, the games link takes you to downloadable games for the blind. The Tips and Hints link under the Articles, Tips and Hints section provides many application-specific lists of hot keys and hints for using applications other than Word and Explorer, e.g. Windows Media Player, Outlook Calendar, Winamp, Sound Forge.

University of Buffalo Assistive Technology Training Online

<http://atto.buffalo.edu/registered/Tutorials/jaws/index.php/>

Several free downloadable JAWS tutorials are available at this site. Topics include general Windows navigation, menus, and dialogue boxes, formatting, JAWS parameters and Help, Word, and Internet.

Instructional Components:

- direct instruction
- indirect instruction
- modeling

Special Considerations for Technology Instruction

The main focus for technology instruction should be student independence. Instructors should ensure that students can demonstrate all technology skills without assistance. In order to be self-sufficient after graduating from High School, the student must acquire skills for independent technology use, problem solving, and life long learning.

It is unlikely that any instructor will be completely proficient in all technology skill areas. To support instruction, resource materials specific to each technology module have been carefully selected and are recommended for course instruction.. These resources are included at the end of each module. It is also recognized that, for content preparation, instructors may not have physical access to all devices or software. In many cases, demo versions of software applications are available and have been referenced.

Technology should never be taught for its own sake. Instead, technology should be seen as a tool to accomplish curriculum and real life tasks. Specifically, instruction on Screen Readers should focus on access to mainstream software applications such as MS Office and Internet Explorer.

The responsible and ethical use of technology is also an important component of instruction. This includes respecting copyright, and registering and updating software. Students with visual impairments who use technology need to learn proper care and maintenance of their own equipment.

Assessment Components:

Eighty per cent (80%) of the grade will be based on evaluations conducted throughout the course. This portion of the grade will reflect the students' most consistent level of achievement throughout the course, although special consideration will be given to the more recent evidence of achievement. Twenty per cent (20%) of the grade will be based on a final evaluation of technical skills.

Type of Assessment	Category	Details	Weighting (%)
Formative	Practical Applications	Outcome-based performance evaluation of curriculum and real life tasks	80 %
Summative	Final Assessment	Outcome-based technology skills evaluation	20 %
Total			100%

Technology should be seen as a tool to accomplish curriculum and real life tasks.

Performance Methods and Products

- Portfolio/binders/computer files
- Assignments
- Presentation of completed works
- Student/instructor/mentor dialogue
- Self evaluation
- Teacher evaluation
- Teacher anecdotal records
- Checklists
- Rating scales

Appendix

Ministry of British Columbia

Board Authority/Authorized Course Framework Template

(with section and content descriptions)

Each ECC course module will contain the following information, presented in the order as prescribed in the BC - BAA course template (see appendix document BAA).

Course Name

BAA Course names should reflect the subject area and include the grade level 10, 11, or 12 in the course name.

Grade Level of Course

The grade level reflects the appropriate level of instruction. In some cases it may be appropriate to create several courses at the same grade level in order to treat different aspects of the subject. This strategy may also be used in the case of a large amount of content divided into several courses. Such course should be labeled for example psychology 11A, 11B and 11C.

Number of Course Credits

Credits refer to the value of a grade 10, 11, or 12 course. The credit value reflects the length and scope of a course. A full course is 4 credits (100-120 hours of instruction).

Course Synopsis

The course synopsis is a statement of product. It outlines what a student has gained when the course is completed.

Rationale

The rationale is a statement of the reasons for wanting to offer opportunities to study this course.

Organizational Structure

The organizational structure includes the curriculum organizers 9the big ideas0 and the specific topics or units, which include the learning outcomes, instruction and assessment components, and time allotments.

Learning Outcomes

The learning outcomes are statements of what students are expected to know and be able to do within each curriculum organizer.

Instructional Component

The instructional component of a course expands on and makes clear the intent of the learning outcomes. It involves the use of activities, techniques, and methods that can be employed to meet diverse student needs and to deliver the curriculum.

Assessment Components

The assessment component provides opportunities to assess formatively and summatively the students' achievement of learning outcomes.

Learning Resources

The learning resources selected for the course should be age appropriate and support learning outcomes. The selection and development of learning resources should take into account the needs of learners. Major learning resources, including teacher resources, should be listed.

BAA Approval and Challenge Information

BC Ministry of Education Board/Authority Authorized (BAA) Course Information

ECC-VI Technology 10, 11, and 12 have been approved by sd#23.

Course codes are:

<u>Course</u>	<u>Code</u>
ECC-VI Technology 10	YVSIT10
ECC-VI Technology 11	YVSIT11
ECC-VI Technology 12	YVSIT12

BC Ministry of Education BAA contact person June 2006

Robert Lazar
BC Ministry of Education
Initiatives Department
Telephone 250-356-9025

BAA Information Sources:

See Policy Document for Board/Authority Authorized Courses

http://www.bced.gov.bc.ca/policy/policies/board_authority.htm

See trustees database at :

British Columbia School Trustees Association (BCSTA) website database of locally developed course offerings

<http://www.bcsta.org/baa/>.

FAQ's

1. When a course has been approved by the board in one school district and is listed as an approved BAA course in the trustee's database, what is the process for approval of a BAA course in additional school districts?

Each board must approve the offering of a BAA course in their district.

The steps for this process are:

- a) Get a copy of the course framework. (ECC-VI Technology course framework is available at <http://prcvi.org/ecc>)
 - b) Make adjustments, if needed, to meet district requirements.
 - c) Get approval from board for course offering.
 - d) Submit form 1526 to ministry indicating wish to offer the course in district.
 - e) Ministry will issue BAA course code number for district.
 - f) Ministry will submit information to have course code included in trustee's database.
2. When can a student challenge a BAA course approved in another district in British Columbia?
 - a) The student can challenge a BAA course **only** if the school district approves the challenge.
 3. Is a district required to allow a student to challenge a BAA course that has been approved in another BC school district?
 - a) The school district can decide to permit or deny a challenge of a BAA course that has been approved in another district. The school district is not required to approve the challenge of a BAA course that has been approved in another school district.
 4. If a school district does approve a challenge of a BAA course approved in another school district, what is the process for the challenge approval?
 - a) Student will meet with school counselor / school personnel to request challenge.
 - b) Counselor / school personnel will make challenge approval request.
 - c) School/district will approve BAA course challenge.
 - d) Counselor / school personnel will Attach approval letter to student file.
 - e) Counselor / school personnel will Access trustees database to find course code and to review course information. (<http://> ----)
 - f) Counselor / school personnel will contact original BAA approving district to get permission to set up and complete challenge assessment.
 - g) If student successfully challenges course, counselor / school personnel will record course and credit information in student file.

Information compiled by C. McAvoy, June 2006. email cmcavoy@setbc.org