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

**Braille 11**

# EXPANDED CORE CURRICULUM - BRAILLE 11 (ECC-VI-BRL)

***PROPOSAL FOR BOARD / AUTHORITY AUTHORIZED COURSES***

##### District Name: North Vancouver School District

##### District Number: SD44

* **Developed By**: PRCVI and BC Teachers of Students with Visual Impairments

##### Date Developed:

* January - June, 2017

##### Superintendent Approval Date:

##### Superintendent Signature:

##### Board/Authority Approval Date:

##### Board/Authority Chair Signature:

* **Course Name**: Expanded Core Curriculum – Visually Impaired – Braille 11 (ECC-VI-BRL)

##### Grade Level of Course: 11

##### Number of Course Credits: 4

##### Number of Hours of Instruction: 120

* **Prerequisite(s):** The ability to understand abstract concepts. Functional use of hands.

##### Special Training, Facilities or Equipment Required: See pg. 5

**Course Synopsis:** See pg. 5

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# Expanded Core Curriculum for Students with Visual Impairments – Braille 11 (ECC-VI-Braille)

## Special Training, Facilities or Equipment Required

* This course requires a qualified teacher of students with visual impairments who is proficient in braille and assistive technologies. The students are taught using direct instruction on an individual basis (one-on-one) as there is usually only one student with a visual impairment in each school. Braille is scheduled as one of the electives and the teacher of students with visual impairments meets with the student during the appointed block.

## Course Synopsis

* This course has been developed for students who are blind or visually impaired in order that they develop competencies in braille reading and writing. The student will be able to read literary and technical material in Unified English Braille, produce braille using a variety of low- and high-tech devices, use braille-related assistive technologies, and reflect on their learning and connect with mentors who are proficient braille readers.

## Rationale

* For students who are blind or visually impaired, this course has been developed in order that they develop competencies in braille reading and writing and be able to continue to access and enjoy literacy materials in an accessible format.
* This course will allow students a tactile reading medium to access the BC curriculum. Students will learn braille to complete their educational program so that they can graduate from high school and pursue college or university, enter the workforce, and use braille for leisure activities and other interests. They will explore curriculum themes, develop projects, and research topics of personal interest. Students must learn the tools, technology, and related skills for reading and writing braille at a high level of proficiency. Proficiency in the use of the braille code is essential to successful post-graduation outcomes in the post-secondary sector and/or the world of work.

## Aboriginal Worldviews and Perspectives

While the ECC-VI-BRL course is primarily designed to provide a meaningful framework within which braille instruction at the secondary level can unfold, the course also touches upon deeper issues and understandings that align with several First Peoples Principles of Learning.

1. Learning is embedded in memory, history, and story.

By learning the braille code, the student becomes part of a proud tradition of individuals with visual impairments gaining independent access to the written word which dates back over two centuries. Course content emphasizes a historical study of braille as well as an examination of the role of braille in contemporary life. The addition of this content to the updated course will enable the student to feel better connected to the story of braille and the difference that it has made in the lives of individuals with visual impairments.

1. Learning requires exploration of one’s identity.

For a learner to acquire the braille code at the secondary school level, it is likely that the student has experienced a significant change to their sensory profile that now requires non-visual access to learning materials. Learning the braille code does not happen in isolation from the socioemotional implications that vision loss can have for young people. This course emphasizes a grounded approach to learning braille by examining how braille is represented in our society and provides learners with the information and perspective needed to speak to their families and peers with confidence about the importance of braille. The course also emphasizes the importance of experienced mentors who read braille – not only to provide technical support but to also provide learners with a positive model.

1. Learning involves recognizing that some knowledge is sacred and only shared with permission and/or in certain situations.

One of the key features of ECC-VI-BRL is that the course is taught by a qualified teacher of students with visual impairments. Knowledge and fluency in the use and instruction of the braille code requires intense study and practice. In this way, the content of the course is shared only in the context of the relationship between the learner and the teacher of students with visual impairments.

## Big Ideas

**Braille reading and writing are essential skills for students requiring non-visual access to learning materials.**

**Braille reading and writing take place in social, cultural and historical contexts and are connected to feelings and attitudes toward visual impairment and its impact on the individual.**

**Learners use multiple sensory modalities (vision, hearing, touch) to gather information in the learning environment.**

**Technology for braille reading and writing is vital to the learner’s ability to access and analyze information in the home, school, community, and workplace**.

**Connections to the community of braille readers contextualize and enrich braille usage for the individual learner**.

## Curricular Competencies

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| --- |
| *Students are expected to do the following:*  Problem Solving and Critical Thinking   * Students will engage in problem solving when applying the rules of UEB in their reading and writing. * Students will use critical thinking and analysis to determine which braille writing/production tool or device best meets their needs when completing a given writing task. * Students will determine which advocacy techniques are appropriate for articulating their accessible alternate format requirements at school and in the community.   Comprehend and Connect (Reading, Writing, Drawing)   * Students will work through a sequential process to learn the UEB code and rules. * Students will use systematic tactile strategies to explore and interpret various tactile graphics, diagrams, and drawings. * Students will experiment with various methods and materials to create tactile drawings and diagrams.   Reflect and Project   * Students will reflect on the role of braille in their own learning process and will critically examine how braille reading and writing will factor into their projected (future) plans. * Students will reflect on new technological developments in braille reading and writing in a socio-historical context. * Students will expand their usage of UEB beyond academic tasks by connecting with mentors and peers who read braille, and by exploring options for leisure reading and working in an online environment in braille. |

### **Curricular Competencies - Elaborations**

|  |
| --- |
| Problem Solving and Critical Thinking   * determine locations and instances where braille could be used in everyday life * compare and contrast the various braille technologies available * use a variety of low- and high-tech devices for accessing, producing, and using braille * evaluate different types of tactile diagrams that are best suited for representing information * be able to analyze work and identify characters that are brailled incorrectly * assess the overall quality of their own personal reading and be able to analyze ways of accessing printed information in a medium that is compatible with their ability to access printed information * Comprehend and Connect (Reading, Writing, Drawing) * learn strategies to increase speed and accuracy in recognizing braille characters * read a variety of materials in braille * become familiar with the organization of text in braille formats * become familiar with text placement in a variety of braille formats * learn techniques for skimming and scanning braille materials * create simple written passages * understand basic word processing concepts * use formatting rules that will allow the student to create various levels of headings in their work * begin to develop the ability to create, organize, and implement complex writing projects   Reflect and Project   * reflect on their own learning process and the role of braille and braille technology * incorporate braille into their school, home, and community activities * assess the influences of braille reading on their own literacy development * research and new developments in braille technology and assess the goodness of fit between this technology and their needs * use braille technology to communicate with a mentor who uses braille * use braille technology to communicate with peers who also read braille (i.e., as pen pals) * examine, promote and advocate for creative options in enhancing braille awareness and sharing of braille writing in the school and larger community |

## Content

|  |
| --- |
| *Students are expected to know the following:*  Unified English Braille (UEB) Code Knowledge   * Signs/notation and usage rules * Basic formatting rules and guidelines   Braille Technology   * Low tech, manual braille production * Higher tech digital file access/production with refreshable braille display   Social and Historical Contexts of Braille   * The story of Louis Braille and how the code has developed over the last two centuries. * The implications of braille to early advances in education for learners with visual impairments. * Braille in our world * Looking ahead to new developments and trends   Personal Connections   * Understand how braille fits into students’ own toolkit for accessing learning content. * Understand how braille reading and writing will factor into plans for the future (e.g., postsecondary, workplace). * Advocacy – understanding how to advocate for accessible format needs at the school, community, and workplace levels. |

### **Content - Elaborations**

|  |
| --- |
| Unified English Braille (UEB) Code Knowledge   * Signs/notation and usage rules.   + Introduction of the alphabet, contractions, and code rules through a systematic program to promote literacy in braille. * Basic formatting rules and guidelines.   + Proficiency in braille formats for learning materials at the secondary level (e.g., poetry, drama). Awareness of the braille music code.   + Guided practice in creating tactile images, diagrams, and graphs according to technical material guidelines.   Braille Technology   * Low tech, manual braille production.   + Proficiency in the use of the manual Perkins braillewriter, the slate and stylus, and handheld braille labelers. The student will also be familiar with adapted learning tools such as the braille ruler, models with braille labels, etc. * Higher tech digital file access/production with refreshable braille display.   + Students should be familiarized with a braille notetaking device, including both online and offline functions. From a production standpoint, the student should know the require steps to connect their notetaking device or laptop to a braille embosser and the steps required to emboss independently.   Social and Historical Contexts of Braille   * The story of Louis Braille and how the code has developed over the last two centuries.   + Reading and discussing biographies of Louis Braille and examining the precursors to the braille code (e.g., night writing).   + Knowledge of the “War of the Dots” – historical debate over North America’s official tactile code and the eventual predominance of the braille code in Canada and the United States.   + Discussion and awareness of the development of braille codes around the world as well as the development of specialized codes in English (e.g., music braille).   + The rationale for the adoption of UEB in Canada (effective, 2010) – the benefits of UEB and awareness of English Braille – American Edition and Nemeth codes which preceded UEB. * The implications of braille to early advances in education for learners with visual impairments.   + Reading and discussing biographies (e.g., Helen Keller) provide evidence of the impact of braille on the lives of historical figures. Historical limitations on the availability of braille and inclusive education for learners with visual impairments as content for discussions on social justice, accessibility. * Braille in our world.   + Exploring texts and online content to learn about how braille is produced in other regions, countries. International perspectives provide opportunity for examination of global, national, regional, and local issues facing individuals with visual impairments. Students should be encouraged to formulate potential solutions to these issues. * Looking ahead to new developments and trends.   + Students should research the latest prototypes and speculative developments in braille technology and evaluate the prospective advantages and disadvantages to each. Connect to social justice and accessibility discussion – will this technology help to address the challenges facing braille readers in Canada and/or abroad?   Personal Connections   * Understand how braille fits into students’ own toolkit for accessing learning content.   + Presented with a multiple modes of accessing learning material, the student will determine the combinations/intersections of each that maximize comprehension and efficiency (e.g., a refreshable braille display paired with audio output). * Understand how braille reading and writing will factor into plans for the future (e.g., postsecondary education, workplace). * Advocacy – understanding how to advocate for accessible format needs at the school, community, and workplace levels.   + Guided practice in articulating arguments that support the provision of accessible alternate format materials. Student may create a short presentation on braille and what it means for them which can be shared with teachers, administrators, etc. |

## Braille 11 (120 Hours) Organizational Structure

|  |  |  |
| --- | --- | --- |
| **Unit** | **Title** | **Time (hours)** |
| 1 | **Exploration** Braille Issues  Creation Analysis Technology | 10 |
| 2 | **Tactile Discrimination/Interpretation**  Tactile Interpretation Creation  Analysis | 20 |
| 3 | **Production** Creation Analysis Technology | 25 |
| 4 | **Braille Reading** Braille Reading Creation Analysis Technology | 30 |
| 5 | **Braille Writing** Braille Writing Creation Analysis Technology | 20 |
| 6 | **Social/Emotional** Creation Analysis Technology | 15 |
| **Total Hours:** | | 120 |

## Unit 1: Exploration

### Overview

* Students will explore the history of braille and its development. They will begin to learn the braille code and consider ways in which braille could be used throughout their daily life.

### Learning Outcomes – Braille Issues

* It is expected that the student will:
* read and learn the letters of the alphabet
* learn about various aspects of braille history (e.g., pre-braille era, Louis Braille, history of braille codes, history of braille and technology)
* develop skills and techniques used for formatting braille documents

### Learning Outcomes – Creation

* It is expected that the student will:
* determine locations and instances where braille could be used in everyday life
* with assistance, create braille labels or other documents of use in everyday life
* begin to develop skills and techniques for producing braille

### Learning Outcomes – Braille Reading

* It is expected that the student will:
* begin to learn braille groupsigns, wordsigns, contractions, shortforms, punctuation, indicators, and technical symbols
* analyze their own reading and writing for errors

### Learning Outcomes – Technology

* It is expected that the student will:
* use a variety of low- and high-tech devices for accessing, producing, and using braille
* use appropriate vocabulary when discussing and using braille and low- or high-tech devices
* use a refreshable braille display to access documents
* compare and contrast the various braille technologies available
* use and maintain materials, equipment, and work space in a safe and environmentally sensitive manner
* master all contractions that have been introduced and are currently known

## Unit 2: Tactile Discrimination/Interpretation

### Overview

* Students will learn how to discriminate the different textures, lines, and characters used in tactile graphs, charts, and diagrams. They will begin to analyze information that is presented in a tactile format as well as create their own simple tactile graphics. Students will learn how to interpret tactile information in a format that they understand and relate to others.

### Learning Outcomes – Tactile Interpretation

* It is expected that the student will:
* be introduced to simple, high-quality tactile diagrams
* use tactile marks to distinguish and identify items
* read charts, graphs, and tables and interpret information presented

### Learning Outcomes - Creation

* It is expected that the student will:
* create simple tactile diagrams using available materials
* gather relevant information from appropriate sources and begin to interpret a tactile diagram
* write interpretation of the tactile diagrams

### Learning Outcomes - Analysis

* It is expected that the student will:
* identify the role that tactile diagrams, maps, charts, and graphs play in the transfer of information within different formats
* evaluate different types of tactile diagrams that are best suited for representing information

## Unit 3 Production

### Overview

* Students will develop braille writing and production skills using low- and high-tech devices. Students will be able to use the braillewriter to begin to produce material using the braille code.

### Learning Outcomes – Creation

* It is expected that the student will:
* use effective communication skills when gathering and sharing information
* use low technology devices to write braille sentences
* use braille technology to access and produce braille

### Learning Outcomes – Analysis

* It is expected that the students will:
* analyze the importance of using braille technologies
* discuss the role that braille technology can play in their lives
* be able to analyze work and identify characters that are brailled incorrectly

### Learning Outcomes – Technology

* It is expected that the students will:
* load paper correctly into the braille writer or other braille device
* begin to demonstrate competent use of the equipment that can produce braille
* use appropriate vocabulary when discussing various pieces of technology
* use and maintain materials, equipment, and work space in a safe and environmentally sensitive manner
* begin to learn the necessary keystrokes for use of high-technology devices
* learn commands to navigate on a notetaker, computer, tablet, or mobile device using speech and braille output

## Unit 4 Braille Reading

### Overview

* In this unit, students will continue to master their knowledge of the braille code. Students will also focus on increasing their speed and accuracy in braille reading.

### Learning Outcomes – Braille Reading

* It is expected that the students will:
* become increasingly proficient in recognizing braille groupsigns, wordsigns, contractions, shortforms, punctuation, indicators, and technical symbols
* learn strategies to increase their speed when recognizing braille characters
* read a variety of materials in braille
* become familiar with the organization of text in braille formats
* become familiar with text placement in a variety of braille formats
* learn techniques for skimming and scanning braille materials
* use braille for different reading purposes – scans, studies, details

### Learning Outcomes – Creation

* It is expected that the students will:
* use problem-solving skills when encountering unfamiliar braille symbols
* create a reading goal and identify an action and monitoring plan
* learn formatting rules to create work
* improve speed of reading with comprehension

### Learning Outcomes – Analysis

* It is expected that the students will:
* assess the overall quality of their own personal reading and be able to analyze ways of accessing printed information in a medium that is compatible with their ability to access printed information
* focus on ways that they can identify braille characters quickly and accurately
* assess the overall quality of their skills for producing braille
* focus on proper braille reading techniques
* explain personal interpretation of and preferences for selected text

### Learning Outcomes – Technology

* It is expected that the students will:
* use braille technology to access information from a variety of sources
* apply appropriate procedures associated with the production of braille
* use appropriate vocabulary when discussing braille technology being used for reading
* use and maintain materials, equipment, and work space in a safe and environmentally sensitive manner

## Unit 5 Braille Writing

### Overview

* In this unit, students will produce braille with a high degree of accuracy. They will use braille to produce a variety of materials for leisure and school activities, including the use of technology for production.

### Learning Outcomes – Braille Writing

* It is expected that the students will:
* demonstrate a knowledge and understanding of the braille code rules introduced so far
* demonstrate knowledge of how the braille code could be used to represent important concepts and ideas

### Learning Outcomes – Creation Learning Outcomes

* It is expected that the students will:
* gather relevant information from appropriate sources
* use effective communication skills when gathering and sharing information independently and in groups
* apply the creative process (i.e., using different equipment) in their work
* create simple written passages
* understand basic word processing concepts
* use formatting rules that will allow the student to create various levels of headings in their work
* begin to develop the ability to create, organize, and implement complex writing projects

### Learning Outcomes – Analysis

* It is expected that the students will:
* explain preferences to determine the most appropriate braille writing tool for a variety of writing tasks
* analyze their work and identify characters that are incorrectly written
* assess the overall quality of their skills for producing braille
* examine, promote and advocate for creative options in enhancing braille awareness and sharing of braille writing in the school and larger community

### Learning Outcomes – Technology

* It is expected that the students will:
* begin to demonstrate competency in braille production using a variety of technologies
* use appropriate vocabulary when discussing braille technologies
* use braille code rules to produce braille that is properly back-translated into print

## Unit 6: Social/Emotional Components of Braille Reading/Writing

### Overview

* In this final unit, students will connect with other braille users, peer and adult mentors, and reflect on their own experiences learning and using braille.

### Learning Outcomes – Creation

* Students will be expected to:
* create a reflection journal or
* create tools that will assist the learning process (tactile diagrams, flash cards, etc.)
* create a letter or short presentation advocating for the provision of braille as an accessible format in the context of a fictionalized scenario (e.g., “Imagine you are enrolling in courses at university…”)

### Learning Outcomes – Analysis

* The student will be expected to:
* reflect on their own learning process
* incorporate braille into their school, home, and community activities
* assess the influences of braille reading on their own literacy development
* research and new developments in braille technology and assess the goodness of fit between this technology and their needs
* articulate a variety arguments in favour of educational institutions, employers, services (e.g., banking) providing accessible alternate format materials that meet the learner’s access requirements

### Learning Outcomes – Technology

* The student will be expected to:
* use braille technology to communicate with a mentor who uses braille
* use braille technology to communicate with peers who also read braille (i.e., as pen pals)

## Course Instructional Components

* direct instruction
* indirect instruction
* interactive instruction
* independent instruction
* modeling
* practical creativity and application
* brainstorming
* group work
* audio and video recordings as feedback
* various pieces of technology

## Course Assessment Components

|  |  |  |  |
| --- | --- | --- | --- |
| **Type of Assessment** | **Category** | **Details** | **Weighting (%)** |
| Formative | Practical applications | Teacher-created assignments | 40% |
| Teacher rating scale | End of Units 1-6 | 40% |
| Summative | Final assessment | Reading | 10% |
|  | Writing | 10% |
| **Total:** | | | 100% |

* 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 knowledge of UEB and other braille codes.

### Performance Methods

* Braille code knowledge
* Projects
* Portfolio/binders/computer files
* Braille products evaluation
* Presentation of completed works
* Maintaining assignments on note taker

### Personal Communication

* Student/instructor/mentor dialogue
* Logbook reflection
* Self evaluation
* Teacher evaluation

### Other

* Weekly assessment
* Teacher anecdotal records
* Teacher log
* Checklists
* Rubrics
* Rating scales

## Course Outcomes

It is expected that the student will achieve:

1. 50 words per minute (reading speed with comprehension) at grade level
2. Develop a writing speed which will allow the student to complete work in a timely manner
3. Accuracy 5 errors per page
4. Reading Comprehension – Jerry Johns – Basic Reading Comprehension
5. Interpreting, Charts, graphs, forms, maps (legends)
6. Note taking skills
7. Oral passage at a controlled rate
8. Observe/monitor them in regular classes
9. From text material (summary)
10. Begin to develop competency in the use of one or more braille technologies

## Learning Resources

Farrenkopf, C (2015). Assessment of Braille Literacy Skills: UEB and EBAE. (3rd Ed.). Houston, TX: Region 4 Education Service Center.

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Wormsley, D. P. (2016). I-M-ABLE: Individualized Meaning-Centered Approach to Braille Literacy Education. Louisville, KY: American Foundation for the Blind.