



**College of Education and Human Development  
Division of Special Education and disAbility Research**

Spring 2016

EDSE 616 6V1: Braille Reading and Writing

CRN: 22253, 3 - Credits

JMU – EXED 632 Braille Reading and Writing

RU – EDSP 656 Braille Reading and Writing

NSU – SPE 616V Braille Reading and Writing

ODU – SPED 639 Braille Reading and Writing

<b>Instructor:</b> Dr. Kimberly Avila, PhD, COMS	<b>Meeting Dates:</b> 01/25/16 - 05/02/16
<b>Phone:</b> 703.993.5626	<b>Meeting Day(s):</b> Monday
<b>E-Mail:</b> kavila@gmu.edu	<b>Meeting Time(s):</b> 4:30 pm-7:10 pm
<b>Office Hours:</b> Monday and Wednesday 3:00-4:30 pm (virtual) or by appointment	<b>Meeting Location:</b> Fairfax; Krug Hall 102

**Note:** This syllabus may change according to class needs. Students will be advised of any changes immediately through George Mason e-mail and/or through Blackboard.

**Course Description**

Provides basic instruction on transcription of advanced Braille codes, including music, foreign language, chemistry, computer Braille, and Nemeth code (Braille math code). Introduces techniques for teaching skills in each code. Explores technology tools used to create Braille and tactile materials in addition to other assistive technologies used for instruction in math and science.

Notes: Delivered online.

Hours of Lecture or Seminar per week: 3

Hours of Lab or Studio per week: 0

**Prerequisite(s):** EDSE 511 (may be taken concurrently); EDSE 512

**Co-requisite(s):** None

## **Advising Contact Information**

Please make sure that you are being advised on a regular basis as to your status and progress through your program. Mason M.Ed. and Certificate students should contact the Special Education Advising Office at (703) 993-3670 for assistance. All other students should refer to their faculty advisor.

## **Nature of Course Delivery**

This course is delivered synchronously by video-conferencing.

Learning activities include the following:

1. Class lecture and discussion
2. Application activities
3. Small group activities and assignments
4. Video and other media supports
5. Research and presentation activities
6. Electronic supplements and activities via Blackboard

## **Learner Outcomes**

Upon completion of this course, students will be able to:

- Transcribe and read mathematical materials for school aged students using Nemeth code and UEB.
- Calculate mathematical problems using the Cranmer abacus, including addition, subtraction, multiplication, and division.
- Demonstrate knowledge of materials and instructional strategies for teaching mathematics and science to students with visual disabilities.
- Demonstrate basic knowledge of foreign language, computer, and music codes, and to identify resources for obtaining information on these codes.
- Demonstrate knowledge of basic guidelines for production of tactile graphics.
- Identify strategies for teaching the reading of tactile graphics to students with visual impairment.
- Demonstrate knowledge of technology tools for creating braille materials and tactile graphics.
- Demonstrate the use of a slate and stylus to produce accurate braille.
- Demonstrate knowledge of materials and instructional strategies for teaching reading and writing of literary braille.

## **Required Textbooks**

Holbrook, M. C., & D'Andrea, F. M. (2014). *Ashcroft's programmed instruction: Unified English Braille*(Fifth Edition). Germantown, TN: [Scalars Publishing](#). ISBN: 978-0-9960353-0-9.

This is the same book required for Braille Code

[Order Ashcroft UEB online from Scalars Publishing](#)

Craig, R. (1987). *Learning the Nemeth Braille code: A manual for teachers and students*. American Printing House for the Blind.

Print version catalog number: 7-686-53-00

Tactile braille copy of books: 5-68653-00  
Phone ordering: 800-223-1839  
[Order online from APH: Learning Nemeth Code](#)

**PLEASE NOTE:**

Due to changes and the transition to UEB, new transcription protocol has been instituted for braille Nemeth Code in the context of UEB text. These requirements are not documented in this textbook, but will be discussed in class and shared with BANA code switch documents. It is important that you record these changes and make notes as necessary in our text.

**Required texts that are free and available online:**

[The Nemeth Braille Code for Mathematics and Science Notation \(1972\)](#)

Please note: this publication does not include the code switch information

[UEB Rulebook \(2013\)](#)

[Provisional Guidance for Transcription Using the Nemeth Code within UEB Contexts](#)

[Provisional Guidance for Transcribing Foreign Language Material in UEB](#)

**Required Materials**

Braille paper

Cramer abacus

Manual braille writer

Slate and stylus

Perky Duck or other manual input electronic brailier (may not be a transcription program)

**Digital Library**

Effective summer 2015, the Division of Special Education and disAbility Research will discontinue the use of the Pearson Digital Library. No further registrations will be accepted. Students who hold current subscriptions will continue to have access to the library for the remainder of their subscription time. However, no further updates will be made to the digital library. During this time, should a textbook be revised or a new book is adopted for a class where the text is included in the digital library, Pearson will have options available to you and will provide you with an individual e-text or, if there is no e-text, a printed copy. Students, who have purchased a 3-year subscription directly through Pearson Education, will also have an option to obtain a prorated refund. However, 3-year subscription access cards purchased via the GMU bookstore will need to speak with a George Mason Bookstore Representative. Please be aware that the issuance of a refund, in this case, is at the discretion of the George Mason bookstore. Concerns or questions may be directed to Molly Haines at [Molly.Haines@pearson.com](mailto:Molly.Haines@pearson.com).

## Recommended Textbooks

- Livingston, R. (1997). *Use of the Cranmer Abacus* (2nd ed.). Austin, TX: Texas School for the Blind and Visually Impaired. Order # 59420CAP Order from: [Texas School for the Blind and Visually Impaired](#)
- Mangold, P. *Teaching the braille slate and stylus*. Castro Valley, CA: Exceptional Teaching Aids.
- Olsen, M. (1981). *Guidelines and games for teaching efficient braille reading*. New York: American Foundation for the Blind.
- Swenson, A. (2016). *Beginning with braille: Firsthand experiences with a balanced approach to literacy* (2<sup>nd</sup> edition). New York: American Foundation for the Blind.
- Rex, E. J., Koenig, A. J., Wormsley, D. P., & Baker, R. L. (1994). *Foundations of braille literacy*. New York: American Foundation for the Blind.
- Wormsley, D. B. (2004). *Braille literacy: A functional approach*. New York: AFB Press.

## Required Resources

- Reliable internet connection
- Personal computer
- Headset with microphone/headphone
- Webcam
- Nemeth Code reference sheet. Available from American Printing House for the Blind.
  - Braille copy: Catalog Number: 5-87400-00 o Print Copy: Catalog Number: 7-87500-00

## Additional Readings

Additional *required* readings are found on Blackboard

- Braille Authority of North America. (n.d.). The evolution of braille: Can the past help plan the future? Braille Authority of North America, Part 3
- Barclay, L., Herlich, S.A., & Sacks, S.Z. (2010). Effective teaching Strategies: Case Studies from the Alphabetic Braille and Contracted Braille Study. *Journal of Visual Impairment and Blindness*, 104(12), 573-64.
- Harris, B.A. (2011). Effects of the proximity of paraeducators on the interactions of braille readers in inclusive settings. *Journal of Visual Impairment and Blindness*, 105(8), 467-78.
- Holbrook, M., & MacCuspie, P. (2010). The Unified English Braille Code: Examination by science, mathematics, and computer science technical expert braille readers. *Journal of Visual Impairment & Blindness*, 104(9), 533-541.
- Holbrook, M.C. & Koenig, A.J. (1992). Teaching braille reading to students with low vision. *Journal of Visual Impairment and Blindness*, 86(1), 44-48.
- Kamei-Hannan, C., Lawson, H. (2012). Impact of a Braille-Note on writing: Evaluating the process, quality, and attitudes of three students with visual impairments. *Journal of Special Education Technology* 27(3).
- Rosenblum, L., & Herzberg, T. (2011). Accuracy and techniques in the preparation of mathematics worksheets for tactile learners. *Journal of Visual Impairment & Blindness*, 105(7), 402-413.
- Ryles, R., & Bell, E. (2009). Participation of parents in the early exploration of tactile graphics by children who are visually impaired. *Journal of Visual Impairment & Blindness*, 103(10), 625-634.

- Samuels, C. A. (2008). Braille makes a comeback. *Education Week*, 27(43), 27-29.
- Siligo, W. (2005). Enriching the ensemble experience for students with visual impairments. *Music Educators Journal*, 91, 31.

### **Course Relationships to Program Goals and Professional Organizations**

This course is part of the Virginia Consortium for Teacher Preparation in Vision Impairment Program for teacher licensure in the Commonwealth of Virginia in the special education areas of Special Education: Visual Impairments PK-12. This program complies with the standards for teacher licensure established by the Council for Exceptional Children (CEC), the major special education professional organization. The CEC standards that will be addressed in this class include Standard 1: Learner development and individual learning differences; Standard 3: Curricular content knowledge; Standard 4: Assessment; Standard 5: Instructional planning and strategies.

### **GMU Policies and Resources for Students:**

- a. Students must adhere to the guidelines of the George Mason University Honor Code [See <http://oai.gmu.edu/the-mason-honor-code/>].
- b. Students must follow the university policy for Responsible Use of Computing [See <http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/>].
- c. Students are responsible for the content of university communications sent to their George Mason University email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students solely through their Mason email account.
- d. The George Mason University Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students' personal experience and academic performance [See <http://caps.gmu.edu/>].
- e. Students with disabilities who seek accommodations in a course must be registered with George Mason University Disability Services and inform their instructor, in writing, as soon as possible. Approved accommodations will begin at the time the written letter from Disability Services is received by the instructor. <http://ods.gmu.edu/>. Consortium students who seek accommodations must provide documentation from their respective university accommodation offices.
- f. Students must follow the university policy stating that all sound emitting devices shall be turned off during class unless otherwise authorized by the instructor.

g. The George Mason University Writing Center staff provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing [See <http://writingcenter.gmu.edu/>].

### **Professional Dispositions**

Students are expected to exhibit professional behaviors and dispositions at all times.

### **Core Values Commitment**

The College of Education & Human Development is committed to collaboration, ethical leadership, innovation, research-based practice, and social justice. Students are expected to adhere to these principles. [See <http://cehd.gmu.edu/values/>]

For additional information on the College of Education and Human Development, Graduate School of Education, please visit our website [See <http://gse.gmu.edu/>]

### **Course Policies & Expectations**

#### *Attendance.*

Attendance at all course meetings is mandatory. Only in the case of an emergency or other urgent situation will an absence be excused. Candidates must inform the instructor in advance of an upcoming, unavoidable absence, or as soon as possible if there is an emergency situation. Due to the rapid nature of this course, more than one absence may result in dismissal from this class. It is up to the discretion of the instructor to excuse the absence, which may or may not allow makeup of participation points.

#### *Late Work.*

All work is due by the start of class on the date specified in the course schedule. All coursework must be submitted on time, as each assignment in this class builds upon previous content. A candidate who has an approved accommodation for extended time must inform the instructor in writing, in advance with documentation for this approved accommodation from his/her Consortium university before an assignment requiring extended time is due. In the event of an emergency, candidates must inform the instructor of the situation; it is up to the instructor to determine if a scenario may warrant a time extension. Time extensions will not be granted retroactively and in the rare event an extension is granted, it may be subjected to point reduction.

### **Tk20 Performance-Based Assessment Submission Requirement**

Every student registered for any Special Education course with a required performance-based assessment is required to submit the *Four-Week Literacy Plan and Intervention Project* to Tk20 through Blackboard (regardless of whether the student is taking the course as an elective, a onetime course or as part of an undergraduate minor). Evaluation of the performance-based assessment by the course instructor will also be completed in Tk20 through Blackboard. Failure to submit the assessment to Tk20 (through Blackboard) will result in the course instructor

reporting the course grade as Incomplete (IN). Unless the IN grade is changed upon completion of the required Tk20 submission, the IN will convert to an F nine weeks into the following semester.

### Grading Scale

Percent	Grade
93-100	A
90-92	A-
88-89	B+
83-87	B
80-82	B-
70-79	C
<69	F

Assignment	Points	Due
Participation 14x5	70	Weekly
Homework 8x10	80	Specified in course schedule
Checkpoints 2x25	50	UEB: Feb 29 Nemeth: April 25
Transcription portfolios 2x50	100	UEB: Feb 29 (postmarked) Nemeth: April 18 (postmarked)
Unit plan with field experience and lesson presentation	100	Unit plan: April 11 Lesson plan presentation: April 18
Total	400	

### Assignments

#### **Performance-based Assessment (TK20 submission required).**

The NCATE assignment(s) for this class is: Literacy Plan and Intervention Project. Note: Please submit these items together as ONE pdf file into TK20 by the due date.

Literacy Plan and Intervention Project (100 points): This assignment is focused on developing a literacy plan for students who are tactile readers. You will be required to (1) observe a student with a visual impairment in a content area and write reflective notes regarding the observation and student needs. (2) You will then select a content area concept that requires instruction and includes a tactile graphic, and (3) research what types of graphs and charts are needed to introduce, instruct, practice, and assess the concepts (you will present this part of the project to the class). Based on your observations and research, you will create a series of at least 4 comprehensive lesson plans with accompanying tactile models/diagrams/drawings and/or graphics that can be used to introduce and teach the symbols and concepts. Consider the hierarchy of tactile skill development, as you create the materials. The lesson plans should include explicit instruction for literacy skills (e.g. understanding key

vocabulary) using age appropriate narrative and expository texts in accessible format AND for tactile development skills (e.g. tactile discrimination).

A complete description of this project and rubric are found on Blackboard.

### **Performance-based Common Assignments (No TK20 submission required).**

**Homework assignments.** This course contains eight homework assignments that will directly relate to content and transcription work in math, literary, other special codes, abacus work, formatting, essays, surveys, group work, research, and other activities. Each homework assignment will be posted on Blackboard with specified activities and point allocation. Each homework assignment is due by the beginning of the class (4:30 pm) of the date specified on the course schedule. Transcription must be done with manual or electronic input braille programs (Perky Duck, braille writer). No transcription programs may be used to produce any product in this course.

### **Other Assignments.**

**Participation.** Active participation in discussions and other course related content is essential to master content and concepts. Each week, five participation points are available and may require submitting various materials, transcription samples, documents or discussion board posts. In certain weeks, no material submission may be required. Candidates who arrive late, leave early or are otherwise not present for the entire class may lose all or some participation points. Each week, participation requirements will vary and will be specified in the class. Unexcused absences will not be permitted to make up participation points.

**Checkpoints.** Two checkpoints in this class will assess concepts related to their unit of study and other transcription concepts, braille instruction, and research. Checkpoint transcription may include electronic and manual braille production (braille and slate & stylus) in addition to producing other relevant materials.

**Portfolios.** This class requires each candidate produce two transcription portfolios. One will focus on UEB and the other Nemeth transcription. Literary and formatting concepts may also be required. Portfolios are to be produced with a manual braille and slate & stylus when specified. These materials are to be mailed and postmarked by the date specified. Mail tracking is highly recommended.

Mailing address:

Kim Avila

GMU: MSN 1F2

4400 University Drive

Fairfax, VA 22030



## Schedule

Subject to change based on class needs

Date	Topics	Readings and assignments
<b>Jan. 25</b>	<ul style="list-style-type: none"> <li>Course overview</li> <li>Literary braille: EBAE to UEB transition: overview and practice of changes</li> <li>Introduction to UEB numeric (part I)</li> <li>Braille flashcards</li> </ul>	Ashcroft Ch. 3 Exercises 3.2.1, 3.2.2, 3.2.3  <a href="#">Overview of changes from EBAE to UEB</a>
<b>Feb. 1</b>	<ul style="list-style-type: none"> <li>Math transcription: UEB Part II</li> <li>Spatial layout for UEB</li> <li>Groupings</li> <li>Fractions and mixed numbers</li> <li>Currency and measurement</li> <li>Square root and radicals</li> <li>Creating braille number lines</li> </ul>	Ashcroft Ch. 4.4: Spatial equations for addition, subtraction, and division Exercises 4.4.1, 4.4.2 Ashcroft Ch. 5 Exercises 5.1.2, 5.2.1 Ashcroft Ch. 6 Exercises 6.6.1, 6.6.2, 6.7.1 UEB Rule book: 11.5 UEB Rulebook 16.2  <b>Due: Homework 1</b>
<b>Feb. 8</b>	<ul style="list-style-type: none"> <li>Math transcription: UEB Part III</li> <li>Percent, degrees, and angles</li> <li>Superscripts and subscripts</li> <li>Special symbols: lines and line segments, shape indicators</li> <li>Adapting math worksheets</li> </ul>	Ashcroft Ch. 7 Ashcroft Ch. 10 Exercises: 10.6.1, 10.6.2 Ashcroft Ch. 11 Exercises 11.6.1 UEB Rulebook: 11.6-7  <b>Due: Homework 2</b>
<b>Feb. 15</b>	<ul style="list-style-type: none"> <li>Math transcription: UEB Part IV</li> <li>Roman numerals and additional math symbols</li> <li>Matrices and Vectors</li> <li>Literary reading practice activity</li> </ul>	Ashcroft Ch. 12 Exercises 12.4.2, 12.4.3 UEB Rulebook 11.8  <b>Due: Homework 3</b>
<b>Feb. 22</b>	<ul style="list-style-type: none"> <li>UEB review</li> <li>UEB and Chemistry</li> <li>Introduction to the abacus</li> <li>Tactile games and interactive braille lessons</li> </ul>	UEB Rulebook: 11.9  <b>Due: Homework 4</b>
<b>Feb. 29</b>	<ul style="list-style-type: none"> <li>Abacus cont'd</li> <li>UEB Checkpoint</li> </ul>	<b>UEB Checkpoint</b> <b>Due: UEB braille transcription portfolio (postmarked by this date)</b>
<b>March 7</b>	Spring Break: VA-AER conference	
<b>March 14</b>	<ul style="list-style-type: none"> <li>Methods to create tactile graphics</li> <li>Techniques and tools for science and</li> </ul>	Ashcroft Ch. 4: Electronic addresses Ch. 8: # and other special symbols

	<p>math instruction</p> <ul style="list-style-type: none"> <li>• Transcription of electronic information (Computer notation)</li> </ul>	<p>Ch. 12: dashes, backslash UEB Rulebook 11.10</p>
<b>March 21</b>	<p>Code switching 14.6 Nemeth Code within UEB text Introduction to Nemeth Code</p> <ul style="list-style-type: none"> <li>• Nemeth numbers</li> <li>• Nemeth symbols: commas, decimals, signs of operation</li> </ul>	<p>Craig: pp. 1-4</p> <p><a href="#">Provisional Guidance for Transcription Using the Nemeth Code within UEB Contexts</a></p> <p><b>Due: Homework 5</b></p>
<b>March 28</b>	<p>Nemeth</p> <ul style="list-style-type: none"> <li>• Spatial arrangements</li> <li>• Fractions</li> <li>• Grouping</li> </ul> <p>Techniques for transcribing various materials, worksheets, tables, charts, special formatting, etc.</p>	<p>Craig: pp 5-59</p> <p><b>Due: Homework 6</b></p>
<b>April 4</b>	<p>Nemeth</p> <ul style="list-style-type: none"> <li>• Signs and symbols of comparison</li> <li>• Shapes</li> <li>• Super and subscripts</li> </ul> <p>Braille transcription programs Transcription techniques for TBVIs</p>	<p>Craig: pp. 60-74</p> <p><b>Due: Homework 7</b></p>
<b>April 11</b>	<p>Nemeth</p> <ul style="list-style-type: none"> <li>• Modifier, radicals, formatting</li> <li>• Advanced math transcription</li> </ul> <p>Overview of MathSpeak</p> <ul style="list-style-type: none"> <li>• MathSpeak class activity</li> </ul>	<p>Craig: pp.75-81</p> <p><a href="#">MathSpeak</a></p> <p><b>Due: Unit plans</b> <b>Due: Homework 8</b></p>
<b>April 18</b>	<p>Lesson plan presentations</p>	<p><b>Due: Nemeth code portfolio (postmarked)</b></p>
<b>April 25</b>	<p>Nemeth Checkpoint Special codes:</p> <ul style="list-style-type: none"> <li>• Foreign languages</li> <li>• Music</li> </ul>	<p>UEB Rulebook: Section 13 and Section 14 for music braille UEB Rulebook: 3.18</p> <p><a href="#">Provisional Guidance for Transcribing Foreign Language Material in UEB</a></p> <p><b>Due: Nemeth Checkpoint</b></p>
<b>May 2</b>	<p>Course conclusion</p>	

## Appendix

None.