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

Spring 2019
EDSE 616: Braille Reading and Writing
Section: DL1 - CRN: 20560
Section: 6V1 – CRN: 22529
Section: 6Y1 – CRN: 22513
3 – Credits

Instructor: Dr. Kimberly Avila	**Meeting Dates**: 01/28/19 – 05/05/19
Phone: 703.993.5625	**Meeting Day(s)**: Monday
E-Mail: kavila@gmu.edu	**Meeting Time(s)**:4:30 pm - 7:10 pm
Office Hours: Monday/Wednesday 3:30-430pm virtually or by appointment	**Meeting Location**: Online
Office Location: Finley 203a	**Other Phone**: N/A
Mail: Kimberly Avila GMU: MSN 1f2 4400 University Drive Fairfax, VA 22030	

Quick Links

Assignments

Course Schedule

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

Prerequisite(s): EDSE 511; EDSE 512 (may be taken concurrently)
Co-requisite(s): None

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: Field experience required. Delivered online. Offered by Graduate School of Education. May not be repeated for credit.

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 teacher candidates/students should contact the Special Education Advising Office at (703) 993-3670 for assistance. All other teacher candidates/students should refer to their faculty advisor.

Advising Tip
Did you know you can evaluate your progress in the program at any time by running a Degree Evaluation in Patriotweb? Step by step instructions are available at http://registrar.gmu.edu/students/degree-evaluation/.

Course Delivery Method
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

This course will be delivered online (76% or more) using a synchronous format via Blackboard Learning Management system (LMS) housed in the MyMason portal. You will log in to the Blackboard (Bb) course site using your Mason email name (everything before @masonlive.gmu.edu) and email password. The course site will be available on January 22, 2019

Under no circumstances, may candidates/students participate in online class sessions (either by phone or Internet) while operating motor vehicles. Further, as expected in a face-to-face class meeting, such online participation requires undivided attention to course content and communication.

Technical Requirements

To participate in this course, students will need to satisfy the following technical requirements:

- High-speed Internet access with standard up-to-date browsers. To get a list of Blackboard's supported browsers see: https://help.blackboard.com/Learn/Student/Getting_Started/Browser_Support#supported-browsers

To get a list of supported operation systems on different devices see: https://help.blackboard.com/Learn/Student/Getting_Started/Browser_Support#tested-devices-and-operating-systems

- Students must maintain consistent and reliable access to their GMU email and Blackboard, as these are the official methods of communication for this course.
- Students will need a headset microphone for use with the Blackboard Collaborate web conferencing tool.
- Students may be asked to create logins and passwords on supplemental websites and/or to download trial software to their computer or tablet as part of course requirements.
- The following software plug-ins for PCs and Macs, respectively, are available for free download:
    - Adobe Acrobat Reader: https://get.adobe.com/reader/
    - Windows Media Player: https://support.microsoft.com/en-us/help/14209/get-windows-media-player
    - Apple Quick Time Player: www.apple.com/quicktime/download/

Expectations

- Course Week: Our course week will begin on the day that our synchronous meetings take place as indicated on the Schedule of Classes.
- Log-in Frequency:
  Students must actively check the course Blackboard site and their GMU email for communications from the instructor, class discussions, and/or access to course materials at least 3 times per week. In addition, students must log-in for all scheduled online synchronous meetings.
- Participation:
  Students are expected to actively engage in all course activities throughout the semester, which includes viewing all course materials, completing course activities and assignments, and participating in course discussions and group interactions.
- Technical Competence:
  Students are expected to demonstrate competence in the use of all course technology. Students who are struggling with technical components of the course are expected to seek assistance from the instructor and/or College or University technical services.
- Technical Issues:
  Students should anticipate some technical difficulties during the semester and should, therefore, budget their time accordingly. Late work will not be accepted based on individual technical issues.
- Workload:

Please be aware that this course is **not** self-paced. Students are expected to meet *specific deadlines* and *due dates* listed in the **Class Schedule** section of this syllabus. It is the student's responsibility to keep track of the weekly course schedule of topics, readings, activities and assignments due.

- Instructor Support:
  Students may schedule a one-on-one meeting to discuss course requirements, content or other course-related issues. Those unable to come to a Mason campus can meet with the instructor via telephone or web conference. Students should email the instructor to schedule a one-on-one session, including their preferred meeting method and suggested dates/times.
- Netiquette:
  The course environment is a collaborative space. Experience shows that even an innocent remark typed in the online environment can be misconstrued. Students must always re-read their responses carefully before posting them, so as others do not consider them as personal offenses. *Be positive in your approach with others and diplomatic in selecting your words*. Remember that you are not competing with classmates, but sharing information and learning from others. All faculty are similarly expected to be respectful in all communications.
- Accommodations:
  Online learners who require effective accommodations to insure accessibility must be registered with George Mason University Disability Services.

Learner Outcomes

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

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

Course Relationship 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, as well as those established by the Interstate Teacher Assessment and Support consortium (InTASC). The standards addressed in this class include CEC Standard 1: Learner development and individiaul learning differences (InTASC 1,2); CEC Standard 3: Curricular content knowledge (InTASC 4,5); CEC Standard 4: Assessment (InTASC 6) & CEC Standard 5: Instructional planning and strategies (InTASC 7,8).

This course contains at least on Common Assessment developed by the College of Education and Human Development to assess our candidates' performance on nationally accepted standards for beginning teachers (InTASC) and our programs' performance on national accreditation standards (CAEP).

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.

Cleveland, J. et. al. (2017). Nemeth at a Glance. Texas School for the Blind.

Required textbooks listed below are free and may be downloaded online.

UEB Guidelines for Technical Material (GTM) in PDF print format

- UEB Guidelines for Technical format in BRF format (for candidates who use electronic and/or embossed braille)

UEB Rulebook (2013)

- Available in BRF

The Nemeth Braille Code for Mathematics and Science Notation (1972) Please note: this publication does not include the code switch information

Guidance for Transcription Using the Nemeth Code within UEB Contexts

Provisional Guidance for Transcribing Foreign Language Material in UEB

Music Braille Code, 2015

Braille Formats: Principles of Print-to-Braille Transcription, 2016

Textbook access via Mason's Online library (No purchase necessary, use your Mason credentials to access).

Swenson, A. (2016). *Beginning with braille: Firsthand experiences with a balanced*

approach to literacy (2nd edition). New York: American Foundation for the Blind.

Recommended Textbooks

American Psychological Association. (2010). *Publication manual of the American Psychological Association* (6th ed.). Washington, DC: Author.

Royal National Institute for the Blind (September, 2015). Using UEB for Mathematics. England.
This book is available in print and braille. You do not need to buy both, just the one that meets your media criteria.
Order RNIB UEB Math in Print Product code: TC21445
Order RNIB UEB Math in Braille Product code: TC21446

Nemeth Code Reference Sheet from the American Printing House for the Blind
Available in either print or embossed braille
Nemeth Code Reference Sheet for Basic Mathematics: Braille 5-87400-00
Nemeth Code Reference Sheet for Basic Mathematics: Print 7-87500-00

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

Livingston, R. (1997). Use of the Cranmer Abacus (2nd ed.). Austin, TX: Texas School for the Blind and Visually Impaired. Order # 59420CAP

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.

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

- Nemeth Code Tutor: Free online program for Nemeth Code practice
- UEB Math Tutorial: Free online program for UEB technical practice
- Perky Duck or other manual input electronic brailler (may not be a transcription program)
- Manual braille writer: may be checked out from your Consortium university

The following supplies are available from various vendors. APH offers a student starter pack with these items included:

- Cranmer Abacus
- Braille paper
- Slate & stylus

Additional Readings

Additional r*equired* readings are found on Blackboard and include, but not limited to the articles below:

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.

Beal, C. R., & Rosenblum, L. P. (2018). Evaluation of the effectiveness of a tablet computer application (App) in helping students with visual impairments solve mathematics Problems. *Journal of Visual Impairment & Blindness*, *112*, 5-19.

Bickford, J., & Falco, R. (2012). Technology for Early Braille Literacy: Comparison of Traditional Braille Instruction and Instruction with an Electronic Notetaker. *Journal of Visual Impairment & Blindness*, *106*(10), 679–693.

Campbell, A. (2016). “Essential Experiences to Undergird the Early Development of Literacy,.” *Journal of Visual Impairment & Blindness*, *110*(5).

Cheng, L., & Beal, C. (2018). Teachers of Students with Visual Impairments Share Experiences and Advice for Supporting Students in Understanding Graphics. *Journal of Visual Impairment & Blindness (Online)*, *112*(5). https://doi.org/10.1177/0145482X1811200505

Ferrell, K., Correa-Torres, S., Howell, J., Pearson, R., Carver, W., Groll, A., … Dewald, A. (2017). Audible Image Description as an Accommodation in Statewide Assessments for Students with Visual and Print Disabilities. *Journal of Visual Impairment & Blindness*, *111*(4), 325–339. https://doi.org/10.1177/0145482X1711100403

Gulley, A., Smith, L., Price, J., Prickett, L., & Ragland, M. (2017). Process-Driven Math: An Auditory Method of Mathematics Instruction and Assessment for Students Who Are Blind or Have Low Vision. *Journal of Visual Impairment & Blindness*, *111*(5), 465–471. https://doi.org/10.1177/0145482X1711100507

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.

Herzberg, T., Rosenblum, P., & Robbins, M. (2017). Teachers’ experiences with literacy instruction for dual-media students who use print and braille. *Journal of Visual Impairment & Blindness*, *111*(1), 49–59.

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.

Hong, S., Rosenblum, L., & Campbell, A. (2017). Implementation of Unified English Braille by teachers of students with visual Impairments in the United

States. *Journal of Visual Impairment & Blindness*, *111*(6), 543–555.
Ivy, S., Guerra, J., & Hatton, D. (2017). Procedural adaptations for use of constant time delay to teach highly motivating words to beginning braille readers. *Journal of Visual Impairment & Blindness*, *111*(1), 33–48.
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).
Martiniello, N., Wittich, W., & Jarry, A. (2018). The perception and use of technology within braille instruction: A preliminary study of braille teaching professionals. *The British Journal of Visual Impairment*, *36*(3), 195–206. https://doi.org/10.1177/0264619618775765
Nannemann, A., Bruce, S., Hussey, C., Vercollone, B., & McCarthy, M. (2017). Oral braille reading decoding strategies of middle school students who are blind or have low vision. *Journal of Visual Impairment & Blindness*, *111*(3), 284–288.
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.
Rosenblum, L., & Smith, D. (2012). Instruction in specialized braille codes, abacus, and tactile graphics at universities in the United States and Canada. *Journal of Visual Impairment & Blindness*, *106*(6), 339–350. Retrieved from http://search.proquest.com/docview/1023133606/
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.
Savaiano, M., Compton, D., Hatton, D., & Lloyd, B. (2016). Vocabulary word instruction for students who read braille. *Exceptional Children*, *82*(3), 337–353. https://doi.org/10.1177/0014402915598774
Siligo, W. (2005). Enriching the ensemble experience for students with visual impairments. *Music Educators Journal*, *91*, 31.
Spinczyk, D., Maćkowski, M., Kempa, W., & Rojewska, K. (2019). Factors influencing the process of learning mathematics among visually impaired and blind people. *Computers in Biology and Medicine*, *104*, 1–9. https://doi.org/10.1016/j.compbiomed.2018.10.025
Stanfa, K., & Johnson, N. (2015). Improving braille reading fluency: The bridge to comprehension. *Journal of Blindness Innovation and Research*, *5*. https://doi.org/10.5241/5-83
Siu, Y. (2016). I-M-ABLE: Individualized Meaning-Centered Approach to Braille Literacy Education. *Journal of Visual Impairment & Blindness*, *110*(5), 373–374.
Tallon, E., & Herzberg, T. (2013). The Use of final-letter braille contractions: A case study. *Journal of Visual Impairment & Blindness*, *107*(3), 221–225.
Toussaint, K., & Tiger, J. (2010). Teaching early braille literacy skills within a stimulus equivalence paradigm to children with degenerative visual impairments. *Journal of Applied Behavior Analysis*, *43*(2), 181–194. https://doi.org/10.1901/jaba.2010.43-181

Wall Emerson, R., Holbrook, M., & D'Andrea, F. (2009). Acquisition of literacy skills by young children who are blind: Results from the ABC braille study. *Journal of Visual Impairment & Blindness*, *103*(10), 610–624.

Course Performance Evaluation

Students are expected to submit all assignments on time in the manner outlined by the instructor (e.g., Blackboard, Tk20, hard copy).

Tk20 Performance-Based Assessment Submission Requirement

It is critical for the special education program to collect data on how our students are meeting accreditation standards. Every teacher candidate/student registered for an EDSE course with a required Performance-based Assessment (PBA) is required to upload the PBA to Tk20 (regardless of whether a course is an elective, a one-time course or part of an undergraduate minor). A PBA is a specific assignment, presentation, or project that best demonstrates one or more CEC, InTASC or other standard connected to the course. A PBA is evaluated in two ways. The first is for a grade, based on the instructor's grading rubric. The second is for program accreditation purposes. Your instructor will provide directions as to how to upload the PBA to Tk20.

For EDSE 616, the required PBA is Four-Week Literacy Plan and Intervention Project. Please check to verify your ability to upload items to Tk20 before the PBA due date.

Assignments and/or Examinations

Performance-based Assessment (Tk20 submission required)

Literacy Plan and Intervention Project (70 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.

College Wide Common Assessment (TK20 submission required)

N/A

Performance-based Common Assignments (No Tk20 submission required)
N/A

Field Experience Requirement
A field experience is a part of this course. A field experience includes a variety of early and ongoing field-based opportunities in which candidates may observe, assist, and/or tutor. Field experiences may occur in off-campus settings, such as schools (CAEP, 2016). Below are REQUIRED PROCEDURES FOR ALL STUDENTS ENROLLED IN THIS COURSE.

Complete the online EDSE Field Experience form. This online form will be sent to your GMU email from EDSEfld@gmu.edu on the first day of the semester. Click on the link and complete the form as soon as possible. ALL students should complete the form, regardless of whether you need assistance in locating a field experience placement or not. This information is required by the state. Please direct any questions about the form to Dr. Kristen O'Brien at EDSEfld@gmu.edu.

If you are arranging your own field experience because you are a full-time contracted school system employee and will complete the field experience at your worksite, you will be asked to specify the school at which you will be completing the field experience.

If you request a field experience placement to be arranged, you will receive information via your GMU email account about your assigned internship placement from the Clinical Practice Specialist in the College's Educator Preparation Office (EPO). Check your GMU email regularly for important information regarding your field experience. Follow all instructions for the necessary Human Resource (HR) paperwork required to access the assigned field experience placement.

2. View the EDSE Field Experience Introduction presentation. On the first week of classes and prior to representing George Mason in off-campus settings, your instructor will show a video presentation or provide a link to the presentation, which includes important information about the registration process for EDSE field experiences and tips for a successful field experience. After the presentation, sign the document provided by your instructor to indicate that you have watched the presentation and are aware of the EDSE field experience professionalism expectations.

3. Document your field experience hours. Your instructor will provide you with access to field experience documentation forms to use. There are two different field experience documentation forms – one for those completing

field experience at their worksite and one for those completing field experiences in other classroom settings (e.g., GMU arranged a placement for you). Use the form that is most appropriate for your field experience placement. Your instructor will provide more directions on how to use and submit the documentation form.

4. Complete the field experience end-of-semester survey. Towards the end of the semester, you will receive an email from EDSEfld@gmu.edu with a link to an online survey. This brief survey asks you to report about important features of your field experience placement.

Other Assignments

Candidates must submit all assignments as required via designated Blackboard upload, post mail, or other specified submission method. Items submitted through the non-designated method may not count as completed or submitted.

Participation. Active participation in discussions and other course related content is essential to master material and concepts. Each week, two 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 part or all of the class may lose all or some participation points. Each week, participation requirements will vary and will be specified in the class. Candidates with an unexcused absence(s) will not be permitted to make up participation points.

Abacus Assignment. This assignment will require candidates to explore the Cranmer abacus and to demonstrate proficiency skills related to basic and intermediate mathematical computation with the abacus.

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.

Assessments. This course contains two assessments; a midterm and final. Each assessment evaluates unit proficiency (UEB technical, Nemeth, and UEB literary). Assessment transcription will include electronic and manual braille production (brailler and slate & stylus) in addition to producing other relevant materials.

Portfolio. This class requires each candidate produce a transcription portfolio based on UEB literary and technical transcription. Literary and formatting concepts will also be required. The portfolio is to be produced with a manual brailler and slate &

stylus. 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

Course Policies and Expectations

Attendance/Participation

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. 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.

Grading Scale

Percent	Grade	Points
93-100	A	360-388
90-92	A-	349-359
88-89	B+	341-348
83-87	B	322-340
80-82	B-	310-321
70-79	C	271-320
<69	F	<270

Assignment	Points	Due
Participation 14x2	28	Weekly

Homework 8x10	80	Specified in course schedule
Assessments 2x65	130	UEB: March 4 Nemeth: April 29
Abacus assignment	20	March 18
Literary and technical transcription portfolio	60	March 25
Unit plan with field experience and presentation	70	Unit plan due and presentation: April 22
Total	388	

*Note: The George Mason University Honor Code will be strictly enforced. Students are responsible for reading and understanding the Code. "To promote a stronger sense of mutual responsibility, respect, trust, and fairness among all members of the George Mason University community and with the desire for greater academic and personal achievement, we, the student members of the university community, have set forth this honor code: Student members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work." Work submitted must be your own or with proper citations (see https://catalog.gmu.edu/policies/honor-code-system/).

Professional Dispositions

Students are expected to exhibit professional behaviors and dispositions at all times. See https://cehd.gmu.edu/students/polices-procedures/. In the College of Education and Human Development, dispositions are formally and separately evaluated in at least three points in each student's program – a self-evaluation at the start of their program, an instructor's evaluation in the middle of their program, and a university supervisor's evaluation during internship. When dispositions are assessed, it is important that for areas where a positive disposition is 'occasionally evident' or 'rarely evident,' the student takes steps to grow as an educator. See https://cehd.gmu.edu/epo/candidate-dispositions. In special education licensure programs, the mid-point evaluation is completed by instructors in EDSE 628, EDSE 661, and EDSE 616, and the internship evaluation is completed by instructors in EDSE 783, EDSE 784, and EDSE 785.

Class Schedule

*Note: Faculty reserves the right to alter the schedule as necessary, with notification to students.

Date	Topics	Readings and assignments
Jan. 28	• Course overview • Literary braille: EBAE to UEB transition: overview and practice of changes • Introduction to UEB numeric (part I) • Braille flashcards	Overview of changes from EBAE to UEB Ashcroft Ch. 3 Exercises 3.2.1, 3.2.2, 3.2.3 GTM: pp. 8-10 and 15-17 UEB Math Tutorial: Ch. 1, lessons 1.0-1.4; Ch. 2, lessons 2.0-2.1; Ch. 3, lessons 3.0-3.1 *Nemeth at a Glance:* Tactile skills necessary for math: pp. 13-26
Feb. 4	• Math transcription: UEB Part II • Spatial layout for UEB • Groupings • Fractions and mixed numbers • Currency and measurement • Square root and radicals Creating braille number lines	GTM: pp. 12-14, 20-25, 31-33, 40 UEB Math Tutorial: Lesson 3.2-3.3; Ch. 4; lessons 4.0-4.3; Ch 6, lesson 6.3-6.6; 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 Rulebook: 11.5 UEB Rulebook:16.2 **Due: Homework 1**
Feb. 11	Math transcription: UEB Part III • Percent, degrees, and angles • Superscripts and subscripts • Special symbols: lines and line segments, shape indicators Adapting math worksheets	GTM: pp. 12-13, 50, 58 UEB Math Tutorial: Ch. 5; Lesson 9.0 Ashcroft Ch. 7 Ashcroft Ch. 10 Exercises: 10.6.1, 10.6.2

Date	Topics	Readings and assignments
		Ashcroft Ch. 11 Exercises 11.6.1 UEB Rulebook: 11.6-7 **Due: Homework 2**
Feb. 18	• **Virginia AER Conference, Charlottesville, VA: Asynchronous session** • Math transcription: UEB Part IV • Roman numerals and additional math symbols • Matrices and Vectors Literary reading practice activity	GTM: pp. 11, 69-73 UEB Math Tutorial: Ch. 5; Lesson 3.5 Ashcroft Ch. 12 Exercises 12.4.2, 12.4.3 UEB Rulebook 11.8 **Due: Homework 3**
Feb. 25	• UEB review • UEB and Chemistry • Introduction to the abacus • Tactile games and interactive braille lessons	GTM: pp. 74-82 UEB Math Tutorial: Lesson 6.2, Chs 7-10 UEB Rulebook: 11.9 **Due: Homework 4**
March 4	• Abacus cont'd • UEB Assessment	**UEB Assessment**
March 11	• Spring break: no class meeting	
March 18	• Methods to create tactile graphics • Techniques and tools for science and math instruction • Transcription of electronic information (Computer notation)	GTM: pp. 83-87 Ashcroft Ch. 4: Electronic addresses Ch. 8: # and other special symbols Ch. 12: dashes, backslash UEB Rulebook: 11.10 Due: Abacus overview assignment
March 25	Guest presenter: Ana Khan, Tactile Graphics Code switching 14.6 Nemeth Code within UEB text Introduction to Nemeth Code	Guidance for Transcription Using the Nemeth Code within UEB Contexts *Nemeth at a Glance:* Examples of using Nemeth in UEB: pp. 105-108

Date	Topics	Readings and assignments
	• Nemeth numbers • Nemeth symbols: commas, decimals, signs of operation	*Nemeth at a Glance:* Early numeracy, pp. 27-35 Nemeth Tutorial: Chapters 1, 2.1, 3.1, 3.2 Nemeth Code: Rules I, II, XIX **Due: Transcription portfolio (postmarked by this date)** **Due: Homework 5**
April 1	Nemeth • Spatial arrangements • Fractions • Grouping Techniques for transcribing various materials, worksheets, tables, charts, special formatting, etc.	*Nemeth at a Glance:* Spatial arrangements and fractions pp. 37-43 Nemeth Tutorial Chapters 3.4, 3.7, and 7.1 Nemeth Code: Rules X, XII, XXIV, Rule XVIII, Nemeth Code: pp. 75 **Due: Homework 6**
April 8	Nemeth • Signs and symbols of comparison • Shapes • Super and subscripts Braille transcription programs Transcription techniques for TBVIs Introduction to ASCII	*Nemeth at a Glance:* pp. 53-54 Nemeth Tutorial: Chapters 5.1, 10 Nemeth Code: Rules XIII, XVI, XVIII, XXI, **Due: Homework 7**
April 15	Nemeth • Modifier, radicals, formatting • Advanced math transcription Overview of MathSpeak • MathSpeak class activity	*Nemeth at a Glance:* Modifiers, pp. 49-52; 102-104 Nemeth Tutorial Chapter 11.5-11.6 Nemeth Code: Rule XV

Date	Topics	Readings and assignments
		MathSpeak **Due: Homework 8**
April 22	Unit plan presentations	**Due: Unit plans**
April 29	Nemeth Assessment Special codes: • Foreign languages • Music braille	UEB Rulebook: Section 13 and Section 14 for music braille Music Braille Code, 2015 UEB Rulebook: 3.18 Provisional Guidance for Transcribing Foreign Language Material in UEB **Due: Nemeth Assessment**
May 6	Course conclusion	

Core Values Commitment
The College of Education and Human Development is committed to collaboration, ethical leadership, innovation, research-based practice, and social justice. Students are expected to adhere to these principles: http://cehd.gmu.edu/values/

GMU Policies and Resources for Students

Policies

- Students must adhere to the guidelines of the Mason Honor Code (see https://catalog.gmu.edu/policies/honor-code-system/).

- Students must follow the university policy for Responsible Use of Computing (see http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/).

- Students are responsible for the content of university communications sent to their Mason 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.

- Students with disabilities who seek accommodations in a course must be registered with George Mason University Disability Services or with their disability accommodation office at their Consortium university. Approved accommodations will begin at the time the written letter from Disability Services is received by the

instructor (see http://ods.gmu.edu/).

- Students must silence all sound emitting devices during class unless otherwise authorized by the instructor.

Campus Resources

- Support for submission of assignments to Tk20 should be directed to tk20help@gmu.edu or https://cehd.gmu.edu/aero/tk20. Questions or concerns regarding use of Blackboard should be directed to http://coursessupport.gmu.edu/.

- For information on student support resources on campus, see https://ctfe.gmu.edu/teaching/student-support-resources-on-campus

For additional information on the College of Education and Human Development, please visit our website https://cehd.gmu.edu/students/.

Appendix

Assessment Rubric(s)

Assessment Rubric(s)

	Does Not Meet Expectations **1**	**Meets Expectations** **2**	**Exceeds Expectations** **3**
Learner Development and Individual Learning Differences CEC/B&VI Standards 1 The candidate will provide learner background information	The candidate provides partial information about learner's background omitting relevant information about student experiences and educational strategies currently being employed or information about learner characteristics.	The candidate provides general information about learner's background and educational experiences, highlighting individualized strategies that are currently being used to enhance language development and teach communication skills to learner with visual impairment.	The candidate provides detailed information about learner's background and educational experiences, highlighting the extent to which tactile skills have been taught and individualized strategies that are currently being used to enhance language development and teach communication

	Does Not Meet Expectations 1	Meets Expectations 2	Exceeds Expectations 3
		The candidate provides general information on learner characteristics, including visual condition and the effects of the learners' visual impairment on learning and experience. Candidate describes the perspective of cultural and linguistic differences on growth and development.	skills to learner with visual impairment. The candidate provides detailed information on learner characteristics, including visual condition and the effects of the learners' visual impairment on 1) learning and experience and 2) receptive and expressive literacy and communication. Candidate describes the perspective of cultural and linguistic differences on growth and development.
Learning Environments CEC/B&VI Standard 2 The candidate will design a learning environment	Candidate describes the learning environment in which in the intervention took place, specifying the age, grade level, subject	Candidate describes the learning environment in which in the intervention took place, specifying the age, grade level, subject matter of the	Candidate describes the learning environment in which in the intervention took place, specifying the age, grade level, subject matter of the

	Does Not Meet Expectations 1	Meets Expectations 2	Exceeds Expectations 3
description with identified supports of lesson integration is placement setting. The candidate describes the use of multisensory learning environments that encourage student participation and materials/technology needed for the learner with a visual impairment. The candidate provides for incidental learning opportunities.	matter of the learner with visual impairment and the school/program in which the student is enrolled. Candidate provides cursory description of the learning environment that encourage active participation in individual and group activities	learner with visual impairment and the school/program in which the student is enrolled. Candidate identifies supports needed for lesson integration into various program placements Candidate describes the use of multisensory learning environments that encourage active participation in individual and group activities Candidate describes the classroom organization needed to accommodate materials, equipment, and technology for student with visual impairment.	learner with visual impairment and the school/program in which the student is enrolled. Candidate describes the extent to which the learning environment encourages active participation in individual and group activities Candidate describes and supports needed for lesson integration into various program placements Candidate designed and clearly described multi-sensory learning environments that encourage active participation in group and individual activities Candidate describes the classroom organization

	Does Not Meet Expectations 1	Meets Expectations 2	Exceeds Expectations 3
			needed to accommodate materials, equipment, and technology for student with visual impairment. Candidate describes access to incidental learning experiences.
Content Area Lesson Plan CEC/B&VI Standard 5 The candidate will prepare lesson plans, Prepare and organize materials to implement daily lesson plans, provide strategies for teaching new concepts	Overarching concept of unit plan is unclear or context for unit plan is not adequately described. The scope and sequence of unit plan is incoherent or no rationale for progression of skills is described. Candidate fails to make an explicit connection between literacy and instructional concepts of unit.	Candidate describes the overarching concept that is being developed and the context for the unit plan (prioritized area of the general education curriculum) Candidate describes the overall purpose of the unit plan that is being designed to promote positive learning results in the general curriculum. Candidate describes the integration of literacy skill	Candidate describes the overarching concept that is being developed and the context for the unit plan (prioritized area of the general education curriculum). Candidate describes the overall purpose of the unit plan that is being designed to promote positive learning results in the general curriculum. Candidate provides a rationale for the progression of

	Does Not Meet Expectations 1	Meets Expectations 2	Exceeds Expectations 3
		instruction for the unit plan, which may include narrative or expository materials or vocabulary and comprehension instruction to promote understanding of the content area concepts. Candidate describes strategies for teaching new concepts. Candidate provides instructional strategies considered to individualize instruction for impairment.	skills (scope and sequence) covered in unit and the expected achievement for overall unit. Candidate describes the integration of literacy skill instruction for the unit plan, which may include narrative or expository materials or vocabulary and comprehension instruction to promote understanding of content area concepts, incorporating evidence-based literacy strategies into direct instruction. Candidate describes evidence-based instructional strategies considered to individualize instruction for learner with visual impairment.

	Does Not Meet Expectations 1	Meets Expectations 2	Exceeds Expectations 3
Three Lesson Plans Instructional Planning & Strategies CEC/B&VI Standards 5 The candidate prepares lesson plans using evidence-based practices validated for specific characteristics of learners and settings in instructional planning. The candidate uses communication strategies and resources to facilitate understanding of subject matter for individuals with exceptionalities whose primary language is not the dominant language.	Candidate prepares incomplete lesson plans for instructional unit and does not include evidence-based teaching methods and strategies appropriate to the needs of learners with visual impairment. Candidate does not prepare lessons which make a clear connection between content area literacy skills and concepts.	Candidate prepares comprehensive lesson plans for instructional unit. Candidate includes specific strategies to teach critical lesson content and vocabulary. The procedure includes a description of teaching strategies used to build the content area concepts with a clear connection to literacy skills. Candidate includes explicit instruction in content area literacy, which may include age appropriate narrative and expository texts in accessible format or vocabulary and reading comprehension strategies to promote understanding of	Candidate prepares comprehensive lesson plans for instructional unit. Candidate includes specific evidence-based strategies to teach critical lesson content and vocabulary. The procedure includes a description of evidence-based literacy strategies used to build the content area concepts with a clear connection to literacy skills. Candidate includes explicit instruction in content area literacy, which may include age appropriate narrative and expository texts in accessible format or vocabulary and reading comprehension strategies to promote

	Does Not Meet Expectations 1	Meets Expectations 2	Exceeds Expectations 3
		text. Candidate clearly and accurately documents: 1. Measurable lesson plan objective(s) 2. Lesson plan materials. 3. Pre-instructional set 4. Lesson plan method/procedure (task analysis) 5. Lesson data collection methods 6. Closure Candidate lists and briefly describes 2-Evidence-based practices validated for specific characteristics of learners and settings and uses APA style references. Candidate develops comprehensive lesson plans that	understanding of text. Candidate clearly and accurately documents: 1. Measurable lesson plan objective(s) 2. Lesson plan materials. 3. Pre-instructional set 4. Lesson plan method/procedure (task analysis) 5. Lesson data collection methods 6. Closure Candidate lists and briefly describes at least 2 evidence-based strategies, practices validated for specific characteristics of learners and settings and uses APA style references. Each evidence-based practice also contains a clear rationale for

	Does Not Meet Expectations 1	Meets Expectations 2	Exceeds Expectations 3
		are written with high levels of detail such that a substitute TVI could carry them out. Candidate describes strategies for teaching learner who is a non-native English speaker.	incorporating strategy. Candidate develops comprehensive lesson plans that are written with high levels of detail such that a substitute TVI could carry them out. Candidate includes clear plans for connecting the concepts from one lesson to the next throughout the unit and strategies for integrating student initiated learning (critical thinking, problem solving). Candidate describes strategies for teaching learner who is a non-native English speaker.
Assessment Plan for the Unit	Candidate does not to embed or	Candidate creates a formal assessment,	Candidate creates a formal assessment,

	Does Not Meet Expectations 1	Meets Expectations 2	Exceeds Expectations 3
CEC/B&VI Standard 4 The candidate creates and interprets formal and informal assessment methods embedded in the unit.	interpret formal and informal assessment methods in the unit. Candidate does not demonstrate ability to create and maintain accurate records of student learning.	including one test, focusing on literacy and concept development, for the overall unit. Each lesson plan includes informal assessment procedures, including an assessment form/worksheet for collecting data on student learning to conduct self-evaluation of instruction. Candidate documents ability to create and maintain accurate records of student learning.	including one test, focusing on literacy and concept development, for the overall unit, connecting the concepts from one lesson to the next throughout the unit and strategies for integrating student initiated learning (critical thinking, problem solving). Each lesson plan includes informal assessment procedures, including an assessment form/worksheet for collecting data on student learning to conduct self-evaluation of instruction. Candidate demonstrates ability to create and maintain accurate records of student learning.

	Does Not Meet Expectations 1	Meets Expectations 2	Exceeds Expectations 3
Tactile Models, Diagrams, or Drawings Instructional Planning & Strategies CEC/B&VI Standard 5 The candidate will select and adapt materials in tactile/accessible format. The candidate provides strategies for teaching tactual perceptual skills.	Tactile materials are not well designed or materials used to prepare materials are not appropriate. Tactile materials do not represent the concept/skill being taught in a logical or sequential order. Tactile materials do not accurately represent the concept/skill being taught. Strategies for teaching tactual perceptual skills are not included as needed.	Tactile materials are well designed. Candidate selected appropriate materials and provided clear rationale for selection of materials, including considerations of the unique characteristics of the student with visual impairment. Tactile materials clearly communicate concept/skill taught in a sequential and logical order. Strategies for teaching tactual perceptual skills are included as needed. Tactile materials accurately depict concept/skill and include essential elements.	Tactile materials are well designed. Candidate considered: size, scale, density, use of symbols, labels and legend, if appropriate. Candidate selected appropriate materials and provided clear rationale for selection of materials, including considerations of the unique characteristics of the student with visual impairment. Tactile materials clearly communicate concept/skill taught in a sequential and logical order. Tactile materials accurately depict concept/skill and include essential elements, avoiding

	Does Not Meet Expectations 1	Meets Expectations 2	Exceeds Expectations 3
			extraneous information. Strategies for teaching tactual perceptual skills are included as needed and described in depth.
Direct Instruction Reflection CEC/B&VI Standard 6 The candidate will reflect on one's practice to improve instruction and guide professional growth.	Candidate does not write a self-evaluation of instruction or does not reflect on the practice to improve instruction and guide professional growth. Candidate does not describe specific considerations for improving the lesson unit; or Candidate fails to describe the ease with which the student was	Candidate writes a general self-evaluation of instruction and reflects on the practice to improve instruction and guide professional growth. Candidate describes specific considerations for improving the lesson unit. Candidate describes the ease with which the student was able to interpret the tactile materials. Candidate describes the next	Candidate provides an in-depth self-evaluation of instruction and reflects on the practice to improve instruction and guide professional growth. Candidate describes specific considerations for improving the lesson unit. Candidate describes the ease with which the student was able to interpret the tactile materials and discusses

	Does Not Meet Expectations 1	Meets Expectations 2	Exceeds Expectations 3
	able to interpret the tactile materials; or Candidate fails to describe the next steps to promote further understanding of concepts/skills.	steps to promote further understanding of concepts/skills.	potential adaptations for improving them. Candidate describes the next steps to promote further understanding of concepts/skills in general education curriculum.