



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

Spring 2024

EDSE 643 680: Instructional Strategies for Math

CRN: 23942, 3 – Credits

Instructor: Dr. Rajiv Satsangi	Meeting Dates: 1/2/24 – 2/27/24
Phone: 703-993-1746	Instructional Method: Mix of face-to-face meetings and online instruction. See the face-to-face meeting dates below. All other meeting dates will be synchronous online video meetings supplemented by asynchronous online coursework, or purely asynchronous.
E-Mail: rsatsang@gmu.edu	Meeting Day(s): Tuesday (1/2; 1/16; 1/30; 2/13; 2/27 only)
Office Hours: By email appointment	Meeting Time(s): 5:15 pm – 9:45 pm
Office Location: Finley Rm. 209	Meeting Location: Off-Campus

Note:

- 1. 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.**
- 2. If you are unable to attend face-to-face sessions, please speak with your advisor about moving your face-to-face coursework to a future semester and determining if you can take one of the online course offerings (EDSE 501, 517, 590) instead this semester. Any accommodation requests should be submitted to [Disability Services](#).**

Prerequisite(s):

None

Co-requisite(s):

None

Course Description

Integrates foundational knowledge of numeracy acquisition, mathematical concepts, mathematical thinking, mathematics vocabulary, calculation, and problem-solving to plan well-sequenced and explicit math instruction for students with disabilities in the general education curriculum. Examines objectives that align with the general education curriculum Virginia Standards of Learning in mathematics at the elementary, middle, and secondary levels while still providing individualization. Field experience required.

Course Overview

EDSE 643 examines the foundational knowledge of the complex nature of numeracy acquisition and nature of mathematics including mathematical concepts, mathematical thinking, mathematics vocabulary, calculation, and problem-solving, as well as alternative ways to teach content material including curriculum adaptation and curriculum modifications for students with disabilities in the general education curriculum.

Advising Contact Information

Please make sure that you are being advised on a regular basis as to your status and progress in your program. Students in Special Education and Assistive Technology programs can contact the Special Education Advising Office at 703-993-3670 or speced@gmu.edu for assistance. All other students should refer to their assigned program advisor or the Mason Care Network (703-993-2470).

Advising Tip

Are you familiar with Mason career resources? Email speced@gmu.edu to be added to the Special Education employment listserv, and check out Career Services: <https://careers.gmu.edu/>.

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

A percentage of this course will be delivered online using [select either a synchronous or an asynchronous] format via the 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 01/02/24.

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: [Browser support \(https://help.blackboard.com/Learn/Student/Ultra/Getting_Started/Browser_Support\)](https://help.blackboard.com/Learn/Student/Ultra/Getting_Started/Browser_Support)
- 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/](https://get.adobe.com/reader/)
 - [Windows Media Player: https://support.microsoft.com/en-us/help/14209/get-windows-media-player](https://support.microsoft.com/en-us/help/14209/get-windows-media-player)
 - [Apple Quick Time Player: www.apple.com/quicktime/download/](http://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.

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 ensure accessibility must be registered with George Mason University Disability Service.

Learner Outcomes

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

1. Understand curriculum development that includes a scope and sequence, lesson plans, instructional methods, and assessment based on the general education curriculum Virginia Standards of Learning in math at the elementary, middle, and secondary level.
2. Understand, distinguish, and evaluate the differences between procedural, conceptual, and declarative knowledge in order to provide explicit instruction of math to students with disabilities who are accessing the general educational curriculum.
3. Understand foundational knowledge of math including numeracy acquisition, mathematical concepts, mathematical thinking, mathematics vocabulary, calculation, and problem-solving.
4. Demonstrate the ability to identify and distinguish appropriate data-based modifications and accommodations for general or specialized instruction as needed for students with disabilities who access the general education curriculum.
5. Design and demonstrate the application of assistive and instructional technologies to support assessment, planning, and delivery of academic content to students with disabilities who access the general education curriculum.
6. Demonstrate the ability to construct and implement individual educational planning and

systematic, explicit instruction for students with disabilities who access the general education curriculum including:

- a. Essential mathematical concepts, vocabulary, and content across general and specialized curriculum
 - b. Numeracy acquisition
 - c. Problem solving
 - d. Calculation
7. Synthesize and then appraise the individual abilities, interests, learning environments, and cultural and linguistic factors in the selection, development, and adaptation of learning experiences for students with disabilities who access the general education curriculum.
 8. Apply course concepts to K-12 school settings through field-based learning experiences (e.g., field experiences in K-12 classrooms, field-based case studies, field-based virtual/online learning experiences).

Professional Standards

(Council for Exceptional Children [CEC] and the Interstate Teacher Assessment and Support Consortium [InTASC]). Upon completion of this course, students will have met the following professional standards: CEC Standard 3: Curricular Content Knowledge (InTASC 3, 4); CEC Standard 5: Instructional Planning and Strategies (InTASC 7, 8).

Required Texts

Fennell, F., Kobett, B. M., & Wray, J. A. (2017). *The formative 5: Everyday assessment techniques for every math classroom*. Thousand Oaks, CA: Corwin.

Recommended Texts

American Psychological Association. (2020). *Publication manual of the American Psychological Association* (7th ed.). <https://doi.org/10.1037/0000165-000>

Course Performance Evaluation

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

VIA 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 VIA/SLL (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 VIA/SLL.

For EDSE 643: No requirement to upload a Performance-based Assessment (PBA) to VIA/SLL.

Assignments and/or Examinations

Performance-based Assessment

(VIA submission required)

N/A

College Wide Common Assessment

(VIA 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 teach. Field experiences may occur in off-campus settings, such as schools (CAEP, 2016). Below are REQUIRED PROCEDURES FOR ALL STUDENTS ENROLLED IN THIS COURSE.

1. 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 a full-time contracted school system employee and will complete the field experience at your worksite with administrator and instructor approval, 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 TEACHERtrack Office. 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. Note that you may NOT arrange your own 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. Complete the GMU Experiential Learning Agreement packet (ELP). Mason requires all students completing off-campus field experiences in schools or other agencies to complete this packet. Once you have received your field experience placement, complete and submit this packet to the provided link.

4. Document your field experience hours. Your instructor will provide you with access to field experience documentation forms to use in documenting the hours and activities completed in your field experience placement. Your instructor will provide more directions on how to use and submit the documentation form.

5. 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.

6. Students must be able to perform the essential functions of the practicum site assigned with or without an accommodation. Contact Disability Services (ods@gmu.edu) for questions related to accommodations.

Other Assignments

Assignment 1: Math Intervention Project (50 points)

You will select one student with a disability who accesses the general education curriculum. Using and applying assessment techniques, you will identify explicit areas of math for which the student requires an evidence-based strategy. Gather work samples that represent these areas of instructional need. Based on data and consultation with the child's teacher and your course instructor, you will select an evidence-based math strategy intervention and develop a plan for teaching. The instructor must approve your plan before you begin instruction. The teaching lesson plans, modified and adapted for your student, will highlight stages of effective strategy instruction. You will implement plans with the selected student. Performance data will be collected throughout your lessons. You are not expected to see significant gains in this short amount of time. At the end of the project, you will craft a reflective summary on how the experience of teaching this student using the selected intervention and teaching plan. Please refer to Blackboard for the rubric and submission folder for this assignment.

Directions:

1. Select one student in grades K–12 demonstrating mathematics difficulty.
2. Identify one math skill (i.e., SOL standard) for which the student would benefit receiving one-on-one teaching with you as the instructor.
3. Once a skill is selected, create 8 assessments to be used for Baseline and Intervention. Each assessment must have at least 5 unique problems (thus, you will need to create 40 problems for this project). All assessments must be identical in format.
4. Conduct three Baseline sessions. During Baseline, your goal is to see how much the student already knows, thus do not help them or provide any instruction during these sessions. Also, if the student does well, then you may need to select another skill to teach.
5. In consultation with the child's teacher, select one evidence-based practice (EBP) in

math. This strategy will be paired with explicit instruction, thus explicit instruction cannot be the primary EBP selected here. Also, do not use more than one EBP.

6. Create one new comprehensive lesson plan for teaching the student using the strategy. The lesson plan must include each of the following separate sections:
 - a. One VA SOL/Common Core math standard with the lesson's objective(s)
 - b. Description of all prerequisite skills needed, essential concepts, vocabulary, and new skills to be covered
 - c. The evidence-based practice(s) to be used throughout
 - d. Materials needed to teach the lesson
 - e. Steps and activities to be completed during the modeling (I Do), guided (We Do), and independent practice (You Do) portions of the lesson. Within this section, you will outline in detail how the specific strategy you selected will be used
 - f. Use of one form of assistive technology in your lesson
 - g. 5 formative assessment questions used during Intervention sessions (one per session). Intervention assessments cannot count as the formative assessment in your lesson.
7. Submit your lesson plan for approval by the date listed on the course schedule.
8. Teach your one lesson to your student 5 separate times (each time is considered an Intervention session). In each session, first teach your student how to solve problems using the evidence-based practice. Afterwards, give them one assessment. During the assessment, do not help them or provide any instruction (your goal is to see how much they learned).
9. Graph your student's performance illustrating their 3 Baseline sessions and 5 Intervention sessions. The graph must follow APA 7 guidelines, possess a title, and depict clearly marked x- and- y- axes. Please use Microsoft Excel to create your graph.
10. Write a three-page single-spaced reflection on the effectiveness of your teaching and the evidence-based practice you selected. You must address the following topics in your paper using each as a level-heading:
 - a. How did you grow as a teacher over the course of the project?
 - b. What lessons were learned from the assignment itself which included making assessments, designing your lesson plan, teaching your lesson, and collecting data? For example, "Moving forward, my lesson plans need to take into account more..."
 - c. What was your initial goal/rationale for designing your lesson the way you did around your EBP? Did it "play out" the way the envisioned? Why or why not?
 - d. What unexpected challenges arose that may have impacted your ability to deliver your lesson? Did you notice whether each session was identical with the way you delivered it or the way the student received it, or was there some variation each time? If so, why do you think that occurred? How can you control for that next time?
 - e. How much prompting/correcting did the student need when working on problems during Guided Practice? During Independent Practice? Did you notice a decrease/change in this over the 5 Intervention sessions?
 - f. Do you feel like your lesson would also work in another setting (e.g., small group

- instruction, whole group instruction)? What factors may need to be accounted for in these additional settings?
- g. What key advice would you pass along to teachers in your school if they wanted to use your lesson with another struggling student?
11. Submit your documentation form, one lesson plan, 3 Baseline sessions, 5 Intervention sessions, one performance graph, and a three-page reflection as one document onto Blackboard. Please include them in this specific order, with each labeled accordingly at the top of a new page for each.

Assignment 2: Consumer Apps Evaluation Paper (30 Points)

Students will select one digital app or program available online for download to teach mathematics standards in K-12 education. Students will select one child/adult to use this app with and document their experience solving age-appropriate mathematics problems for 15–20 minutes. Afterwards, students will write a full two-page single-spaced paper reviewing this app and child/adults' performance. Reflections should focus on addressing the following topics with each as a level-heading:

- a. Feasibility for small and whole group instruction in inclusionary classrooms
- b. Benefits and foreseeable challenges for teachers
- c. Benefits and foreseeable challenges for students with disabilities
- d. The child/adults' opinion and experiences using the app
- e. Four explicit references with accompanying citations (and reference page) to concepts covered within the course lectures, handouts, and/or readings.

Assignment 3: Lecture Handouts and Attendance (20 Points)

Students are to complete the assigned handouts for every unit covered during class sessions. Handouts will be graded based on the thoroughness of your response to each question/prompt. In addition, points earned from class activities during a time of absence cannot be made up. Attendance (and subsequent participation) includes asking questions and engaging in discussion.

Points for class attendance and participation are positively impacted by:

1. Attending class and being “present”
2. Completing and handing in all class handouts
3. Participating in class discussions/activities
4. Thoughtfully contributing to class discussions
5. Listening to the ideas of other peers
6. Demonstrating an enthusiasm for learning.

Participation points are negatively affected by being late to class, demonstrating a disinterest in the material/discussions (e.g., reflection activities, small group activities, discussions, etc.), and/or absences. Points are also deducted for a lack of digital etiquette during class sessions.

NOTE: All assignments should reflect graduate-level spelling, syntax, and grammar, as well as APA style guidelines. If you experience difficulties with the writing process, you will be required to document your work with the GMU Writing Center during this course.

Assignment Summary

Assignment	Value
Math Intervention Project	50 points
Consumer Apps Evaluation Paper	30 points
Lecture Handouts and Attendance	20 points
Total	100 Points

Student Evaluations of Teaching:

The student evaluation of teaching, or SET, is an online course survey. You are strongly encouraged to complete this form for each course as this feedback helps instructors and administrators improve your class experiences. Towards the end of the course, you will receive email and Blackboard notifications when the evaluations open. Your anonymous and confidential feedback is only shared with instructors after final grades have been submitted. More information about the SET can be found on The Institute of Effectiveness and Planning website at <https://oiep.gmu.edu/set/>

Course Policies and Expectations

Attendance/Participation

Students are expected to (a) attend all classes during the course, (b) arrive on time, (c) stay for the duration of the class time, and (d) complete all assignments. Attendance, timeliness, and professionally relevant- active participation are expected. Attendance and professional participation at all sessions is very important because many of the activities in class are planned in such a way that they cannot necessarily be recreated outside of the class session. Be aware that any points earned for participation in class activities during a time of absence will not be earned and cannot be made up. **One absence will result in 0 percentage points deducted from your overall grade. Two absences will result in 11 percentage points deducted from your overall grade. Three or more absences will result in a loss of 21 percentage points. Repeated tardiness and/or leaving early will result in a loss of 3 percentage points per incidence.** Please notify me in advance by email if you will not be able to attend class.

You are expected to be present, prepared, and exhibit professional dispositions for each class session. Activities resulting in points toward your final grade will be completed during class sessions. Quality of product and completion of the activity within class will impact points earned. Points missed due to absences during class activities cannot be made up.

Quality participation includes:

- (a) Arriving on time, including coming back from break(s),
- (b) Staying in the classroom/activity area for the duration of the class time,

- (c) Participating in all class activities (face-to-face and outside of class, including by electronic means)
- (d) Having on hand all materials required for the class session as per course assignments and the syllabus

Late Work

All assignments are due on the dates indicated (at the beginning of class). Consult with me in advance if there is a problem. In fairness to students who make the effort to submit papers on time, 5 points per day will be deducted from your assignment grade for late papers unless I have agreed to an extension (may be granted one time only for one assignment only). A maximum extension of one calendar week may be granted. Please retain a copy of your assignments in addition to the ones you submit.

Other Requirements

This is a 3-credit graduate level course. Traditionally, 3-credit courses across a 15-week semester require an average of 45 hours of in-class time and approximately 90 hours of independent reading and assignment completion. Be prepared to put in that amount of time into this class and plan your schedule accordingly.

Some assignments require you to synthesize material from the course and outside sources into coherent statements of your ideas. In such cases, your writing should be databased— meaning that you must support statements and ideas with evidence from these sources, giving these sources credit. The standard format for writing in the field of education is outlined in the *Publication Manual of the American Psychological Association, 6th edition* (www.apastyle.org). Specifically, the final version of your Instructional Program should be written in APA style, including a cover page, running head, pagination, headings (as needed), citations (as needed), and reference pages. The citation for this manual is included in the section entitled “Recommended Texts”. For an online resource, see www.apastyle.org.

It is expected that you know how to paraphrase and cite information appropriately to meet both APA guidelines and to avoid plagiarism. This website provides some useful information on how to avoid plagiarism in your writing: <http://www.plagiarism.org/>

Communication: The most efficient way to contact me is through email. I check email daily Monday-Friday from 9:00am-9:00pm. If your email reaches me during this period of time, I will respond immediately. Otherwise, I will respond within 24 hours during the week. Keep in mind that I teach from 6:00- 10:30pm. On weekends, I check my Mason account on Sunday evenings and will respond to all emails received then. Do not email me an hour before an assignment is due and expect a response. If you would prefer to meet with me either before or after class (or at another time during the day), please do not hesitate to contact me.

Written Language: Students at the graduate level are expected to compose with accuracy (grammar, spelling, other mechanics, form, structure, etc.) and at a conceptual level commensurate with advanced degree study. APA Style is the standard format for any written

work in the College of Education and Human Development. If you are unfamiliar with APA format, it would benefit you to purchase the current edition of the Publication Manual of the American Psychological Association. You are required to use APA guidelines for all course assignments as noted in the assignment descriptions. This website links to APA format guidelines: <http://apastyle.apa.org> .

Oral Language: Use “person-first language” in class discussions and written assignments (and, ideally, in professional practice). In accordance with terminology choices in the disability community, strive to replace the term “Mental Retardation” with “Intellectual Disabilities” in oral and written communication and to avoid language labels by stating, for example, a “student with disabilities” (SWD) rather than a “disabled student”. Please refer to guidelines for non handicapping language in APA Journals, including information available at: <http://www.apa.org/pi/disability/resources/policy/resolution-ada.pdf> and <http://supp.apa.org/style/pubman-ch03.15.pdf> .

Inclement Weather: If classes are cancelled at George Mason University, a message will be posted on the class Blackboard site and all class members will receive an email. Because such cancellations are often at the last minute, it may be difficult to get this message prior to leaving for class. If in doubt, dial the University phone number (703-993-1000) or visit the university website (www.gmu.edu). I will email you regarding weather as soon as it is announced. *Please note, the cancellation of classes due to inclement weather is determined by the decision of the instructing university only. If the instructing university is open and operational, then you are expected to attend class.*

Grading

95-100% = **A**

90-94% = **A-**

80-89% = **B**

70-79% = **C**

< 70% = **F**

***Note:** The George Mason University Honor Code will be strictly enforced. See [Academic Integrity Site \(https://oai.gmu.edu/\)](https://oai.gmu.edu/) and [Honor Code and System \(https://catalog.gmu.edu/policies/honor-code-system/\)](https://catalog.gmu.edu/policies/honor-code-system/). 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 new, original work for this course or with proper citations.

Professional Dispositions

Students are expected to exhibit professional behaviors and dispositions at all times. See [Policies and Procedures \(https://cehd.gmu.edu/students/policies-procedures/\)](https://cehd.gmu.edu/students/policies-procedures/). Professional dispositions

are an essential function of a special educator’s job, indicating that these dispositions are critical to develop and assess in special education licensure programs. 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, a self-evaluation at the mid-point of their program, and a university supervisor’s evaluation during internship. In special education graduate licensure programs, the initial self-evaluation is completed in a designated course (EDSE 501), the mid-point self-evaluation is completed in designated courses (EDSE 627, EDSE 661, and EDSE 616), and the internship evaluation is completed by instructors in EDSE 783, EDSE 784, and EDSE 785. In addition to these three designated evaluation times, instructors may complete instructor-rated disposition assessments other times throughout the program. When dispositions are assessed, it is important that for areas where a positive disposition is rated as “not proficient,” the student takes steps to grow as an educator.

Class Schedule

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

Class Session	Topics	Readings Due	Assignments Due
1/2	Course Overview Syllabus Review Historical Perspective Strengths-Based Instruction	Course Syllabus	
1/9	Asynchronous Session	Hott et al. (2014)	Unit 1 Handout
1/16	Scaffolding and Tiering Instruction/Assessment UDL in Mathematics Lesson Planning in Mathematics Formative Assessments: Observations & Interviews	Fennell et al. (2017): Chapters 1-2	
1/23	Asynchronous Session	Gonsalves & Krawec (2014)	Unit 2 Handout
1/30	Developing whole number sense Teaching the rational number system Evidence-based practices to teach conceptual, procedural, and declarative skills Formative Assessments: Show Me Analysis	Fennell et al. (2017): Chapter 3	Consumer Apps Evaluation Paper

Class Session	Topics	Readings Due	Assignments Due
2/6	Asynchronous Session	Agrawal & Morin (2016)	Unit 3 Handout
2/13	Evidence-based practices to teach students with dyslexia Formative Assessments: Hinge Questions	Fennell et al. (2017): Chapters 4-5	
2/20	Asynchronous Session	Krawec (2014)	Unit 4 Handout
2/27	Low- mid- and high-tech assistive technology in mathematics Formative Assessments: Exit Tickets Mathematics Intervention Project Analysis Course reflections & wrap-up Course evaluations	Fennell et al. (2017): Chapter 6 Satsangi et al. (2019)	Math Intervention Project Unit 5 Handout

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: See [Core Values](http://cehd.gmu.edu/values/) (<http://cehd.gmu.edu/values/>).

GMU Policies and Resources for Students

Policies

- Students must adhere to the guidelines of the Mason Honor Code. See [Honor Code and System](https://catalog.gmu.edu/policies/honor-code-system/) (<https://catalog.gmu.edu/policies/honor-code-system/>).
- Students must follow the university policy for Responsible Use of Computing. See [Responsible Use of Computing](http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/) (<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. Approved accommodations will begin at the time the written letter from Disability Services is received by the instructor. See [Disability Services](https://ds.gmu.edu/) (<https://ds.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 VIA should be directed to viahelp@gmu.edu or <https://cehd.gmu.edu/aero/assessments>.
- Questions or concerns regarding use of Blackboard should be directed to [Blackboard Instructional Technology Support for Students](https://its.gmu.edu/knowledge-base/blackboard-instructional-technology-support-for-students/) (<https://its.gmu.edu/knowledge-base/blackboard-instructional-technology-support-for-students/>).
- [Learning Services \(learningservices@gmu.edu\)](mailto:learningservices@gmu.edu) - Provides a variety of experience-based learning opportunities through which students explore a wide range of academic concerns. Services include support to students with learning differences, individual study strategy coaching, individualized programs of study, and referrals to tutoring resources. Presentations on a variety of academic topics such as time management, reading, and note taking are available to the university community. The programs are open to all George Mason University students free of charge.

Notice of mandatory reporting of sexual assault, sexual harassment, interpersonal violence, and stalking:

As a faculty member, I am designated as a “Non-Confidential Employee,” and must report all disclosures of sexual assault, sexual harassment, interpersonal violence, and stalking to Mason’s Title IX Coordinator per [University Policy 1202](#). If you wish to speak with someone confidentially, please contact one of Mason’s confidential resources, such as the [Student Support and Advocacy Center \(SSAC\)](#) at 703-380-1434 or [Counseling and Psychological Services \(CAPS\)](#) at 703-993-2380. You may also seek assistance or support measures from Mason’s Title IX Coordinator by calling 703-993-8730, or emailing titleix@gmu.edu.

For additional information on the College of Education and Human Development, please visit our website [College of Education and Human Development](http://cehd.gmu.edu/) (<http://cehd.gmu.edu/>).

Appendix

Assessment Rubric(s)

Math Intervention Project Rubric (50 Points)

Criteria	Meets Req. (5)	Approaches Req. (4 / 3 / 2)	Needs Improvement (1)	Incomplete (0)	Weight
Has the student provided information about the child being taught and baseline work samples representing areas of instructional need?	Includes the child’s grade level, age, gender, race, academic ability level; and data on the child’s level of understanding about the mathematics concept as well as performance in other academic, social, or behavioral areas.	Includes partial information regarding the child’s grade level, age, gender, race, academic ability level; and data on the child’s level of understanding about the mathematics concept as well as performance in other academic, social, or behavioral areas.	More than two of the required descriptive items about the child are missing.	Criteria not met.	
Has the student selected one age-appropriate K-12 mathematics standard to teach?	One age-appropriate mathematical concept is selected and aligned to a CCSS and/or Virginia SOL for grades K-12. The standard is clearly described in terms of the concepts that will be taught.	One age-appropriate mathematical concept is selected and aligned to a CCSS and/or Virginia SOL for grades K-12. The standard is not fully described in terms of the concepts that will be taught.	One or more mathematics concepts are selected. They may not be age-appropriate or aligned to a CCSS and/or Virginia SOL for grades K-12.	Criteria not met.	
Has the student selected one specific mathematics evidence-based practice?	One evidence-based practice is selected and clearly described in terms of how it will be used to teach the chosen standard/concept.	One evidence-based practice is selected. A thorough explanation of how it will be used to teach the chosen standard/concept is not fully provided.	One strategy is selected. It may not be an evidence-based practice or may be inappropriate for	Criteria not met.	

Criteria	Meets Req. (5)	Approaches Req. (4 / 3 / 2)	Needs Improvement (1)	Incomplete (0)	Weight
			teaching the chosen standard/concept.		
Has the student selected one form of assistive technology?	One form of assistive technology is selected and clearly described in terms of how it will be used to teach the chosen standard/concept.	One form of assistive technology is selected. A thorough explanation of how it will be used to teach the chosen standard/concept is not fully provided.	One form of assistive technology is selected. It may be inappropriate for teaching the chosen standard/concept.	Criteria not met.	
Has the student created one distinct lesson that demonstrates all of the stages of the strategy in use?	The student demonstrates all of the stages of the strategy during instruction. The child is progressed through each stage only after they have demonstrated mastery or understanding of the previous stage.	The teacher demonstrates all of the stages of the strategy during instruction. It is unclear whether the child demonstrated mastery or understanding of each stage.	The teacher does not demonstrate all of the stages of the strategy during instruction or does so incorrectly.	Criteria not met.	
Does the lesson incorporate formative assessments for each session?	The student used a variety of formative assessments throughout the lesson. Higher-level questions were used to encourage deeper thinking and responses from the child to probe for understanding.	The student used a variety of formative assessments throughout the lesson. Questions were used to encourage some analysis and responses from the child to probe for understanding.	The lesson used poorly constructed formative assessments. No questions were used to encourage analysis and responses from the child.	Criteria not met.	

Criteria	Meets Req. (5)	Approaches Req. (4 / 3 / 2)	Needs Improvement (1)	Incomplete (0)	Weight
Is there an appropriate reflection and evaluation of the instruction and assessment process?	A detailed analysis/ reflection from the student is provided after the lesson has concluded. The reflection includes a thorough discussion on strategies for teachers to scaffold this lesson for learners of varying abilities moving forward.	An analysis/ reflection from the student is provided after the lesson has concluded. The reflection includes some discussion on strategies for teachers to scaffold this lesson for learners of varying abilities moving forward.	Limited analysis/ reflection from the student is provided after the lesson. No discussion on strategies for teachers to scaffold this lesson is provided.	Criteria not met.	
Is there a graphed representation of student performance depicting 3 Baseline and 7 Intervention sessions?	A graphed representation of student performance depicting 5 baseline and 5 intervention sessions was included.	A graphed representation of student performance was included, but all data points and/or information were not properly depicted.	A poor graphed representation of student performance was provided lacking accuracy and/or specificity.	Criteria not met.	
Does the student meet all criteria of the assignment as it relates to page length, organization, and APA use.	All criteria of the assignment were met.	The majority of criteria of the assignment were met.	Minimal criteria of the assignment were met.	Criteria not met.	
Total:					
Scale: A = 5 – 4.5 A– = 4.49 – 3.5 B = 3.49 – 2.5					

Criteria	Meets Req. (5)	Approaches Req. (4 / 3 / 2)	Needs Improvement (1)	Incomplete (0)	Weight
C = 2.49 – 2.0 F = 1.99 – 0					