



### Syllabus

#### **TLSC 360: Designing and Implementing Relevant Assessment and Instruction: Instructional Methods in Integrated Early Childhood Mathematics**

Fall Semester 2021

3 hours

#### Instructor Information

Name: Lauren Solarski, PhD (she/her/hers)

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Virtual Office hours: By appointment Tuesdays/Thursdays

#### Module Information

Tuesdays 4:45 to 7:15 PM in Mundelein Center Room 308

Dates: August 30 - December 14, 2021

Final Assignments due December 14, 2021

**School of Education Commitment - COVID-19:** Loyola's School of Education (SOE) recognizes that this is an unprecedented time. We understand that moving into the 2021-2022 academic year while living in the context of the COVID-19 pandemic may stir feelings of uncertainty, fear, or anxiousness. We want you to know that your safety, health, and well-being, as well as that of our faculty and staff, remain our primary concern. We want to be able to support you in any way that we can. We ask you to embody the Jesuit value of *Cura Personalis*, or care for the whole person, as we prepare to learn together. We ask that you consider your way of being in this community, to act with care, and treat all with dignity to keep yourself and others safe. If you are not feeling well, please use Loyola's SYMPTOM Checker. It can be found on the webpage or APP [Loyola Health](#) under the **COVID -19 Related Information Tab** at the top of the page.

The University understands that you may encounter obstacles that make reaching academic goals more difficult. We strongly encourage you to access the Student Resources on [Loyola's COVID-19 Response webpage](#) for information, supports, and resources on basic needs such as housing, food, financial aid, and medical and mental health. This web page also offers information on official University communications, access to technology, and student services. All Loyola University Chicago administrators, faculty, and advisors are also here for you.

The SOE is committed to working with all students to address any challenges that may arise during the semester. Please reach out to your professor as early as possible to discuss any accommodations you think may be necessary in order for you to successfully complete your coursework. Active and engaged communication with all of your professors is encouraged. We know the FALL 2021 Return to Campus will be like no other, but through collaboration, communication, and shared responsibility, we will not only get through this difficult time; we will thrive.

**COVID-19 Required Personal Safety Practices:** We all have a part to play in preventing the spread of COVID-19. Following a simple set of required personal safety practices can lower your own risk of being infected and can help protect others. All members of the Loyola community are expected to follow these practices while on any of the University's campuses. **Face masks or face coverings must be worn by all students, faculty, and staff while on any of Loyola's campuses, when in the presence of others, in classrooms, and in public settings where other social distancing measures are difficult to maintain.** Appropriate use of face masks or coverings is critical in minimizing the risks to others around you, as you can spread COVID-19 to others even if you do not feel sick. Please be sure to review all [LUC REQUIRED Safety Protocols](#).

**COVID-19 Reporting Protocol:** In preparation for our upcoming semester, Loyola University Chicago's Emergency Response Management team has been working to develop protocols in accordance with Centers for Disease Control and Prevention (CDC) guidelines that help ensure the health and safety of our community. Given the rising number of COVID-19 cases across our country, it is very likely that incidence within our community will occur in the fall.

Students, faculty, and staff who have tested positive for COVID-19 must report their case to the University as soon as possible. **If you have tested positive for the virus, please contact us at [covid-19report@LUC.edu](mailto:covid-19report@LUC.edu) or by calling 773-508-7707. All COVID-19-related questions or feedback should continue to be sent to [covid-19support@LUC.edu](mailto:covid-19support@LUC.edu), not the new case reporting email address.**

### **Course Description**

During this rigorous module, candidates continue to learn while also applying their accumulated knowledge and skills. The experiences in this sequence are designed to allow candidates to measure their growth in the areas of planning, instruction, and assessment while reflecting on what teacher candidates should know and be able to do prior to student teaching and prior to certification. TLSC 360 focuses on developmentally appropriate mathematics instructional and assessment methods for early childhood and early childhood special education teachers. Developing meaningful curricular content, modifications, hands-on learning experiences, and integration of early childhood content area standards are all addressed in this course, which covers pre-K through grade 3.

This sequence addresses TLLSC Enduring Understandings 1, 2, 3, 4, 6, 7, and 9.

### **Learning Outcomes**

Essential Questions:

- How does my knowledge and understanding of students affect my assessment development and implementation?
- How do curriculum and instruction choices affect the classroom environment?
- How does the use of data support student success?
- How does my formal and on-going reflection on the impact on students' learning aid in my development as a professional educator?

As a part of this module, candidates will understand that effective educators:

- Enact principles of social justice in the school and community by focusing on the intellectual, social and emotional development of all students, promoting human rights, reducing inequalities, and increasing the empowerment of society's most vulnerable groups. Promote empowerment of individuals through engagement of social justice and a multidimensional understanding of students and their development.
- Engage in collaborative relationships with fellow teachers, school personnel, administrators, students, families and communities and promote collaboration among students to ensure the academic success, and social and emotional well-being of all students. Engage and promote varied collaborative relationships to ensure a broad range of success for students.
- Hold high expectations and build on the assets of diverse students (including, but not limited to race, ethnicity, culture, language, SES, immigration status, exceptionality, ability, sexual orientation, gender, and gender identity).
- Create and support safe and healthy learning environments for all students.

As a part of this module, candidates will:

- Incorporate research and evidence--based practices into the design of instruction (e.g. UbD, IB, SIOP and UDL). (5S; 9A) (IB)
- Select relevant instructional content, materials, resources and strategies for differentiated and universally designed instruction. (3Q; 5O) (IB)
- Analyze instructional practices using four lenses: Task, Learning, Teaching, Power & Participation. (3H; 3I) (IB)

- Use assessment strategies and devices that are nondiscriminatory, and take into consideration the impact of disabilities, methods of communication, cultural background, and primary language when measuring knowledge and performance of students. (7R) (IB)
- Use data to differentiate assessments to meet the needs of diverse learners. (1H; 3J; 5P) (IB)
- Analyze and use student information to design instruction that meets the diverse needs of students and leads to ongoing growth and achievement (1H) (IB)
- Use data to plan for differentiated instruction to allow for variations in individual learning needs (3J) (IB)
- Use assessment data, student work samples, and observations from continuous monitoring of student progress to plan and evaluate effective content area reading, writing, and oral communication instruction (6H)

### **TLSC 360 will address:**

#### ***Early Childhood Instructional Strategies***

- Compare and contrast constructivist and traditional teaching methods in early childhood mathematics instruction.
- Employ methods of differentiated instruction for mathematics in the early childhood setting.
- Demonstrate developmentally effective questioning strategies.
- Use appropriate multimedia to support early childhood mathematics instruction.
- Identify early childhood classroom management considerations in mathematics instruction.

#### ***Early Childhood Classroom Activities for Mathematics***

- Identify procedures for conducting a math classroom activity in an early childhood setting.
- Locate appropriate resources for early childhood math activities.
- Modify an early childhood math classroom activity to meet the needs of diverse learners.

#### ***Early Childhood Learning Environments***

- Identify early childhood commercial mathematics programs.
- Analyze the design/layout of an early childhood setting for mathematics instruction.
- Review state and school site policies on health and safety in mathematics early childhood environments.
- Identify essential materials and useful resources for teaching mathematics in the early childhood setting.
- Explore various types and applications of early childhood math manipulatives.

#### ***Technology in Early Childhood Mathematics Education***

- Identify various types of software and hardware available for early childhood mathematics education.
- Discuss developmentally effective uses of technology in early childhood mathematics education.
- Examine appropriate methods of using the Internet to create meaningful learning experiences in early childhood mathematics education.
- Use developmentally appropriate multimedia to support early childhood mathematics education.
- Compare and contrast state technology standards with those of the International Society for Technology in Education (ISTE).
- Identify the critical skills children need to effectively use technology in early childhood mathematics education.

#### ***Parent and Community Partnerships in Early Childhood Mathematics Education***

- Develop an effective, comprehensive communication plan for families.
- Explore opportunities for family participation in early childhood mathematics curriculum.
- Design early childhood mathematics extension activities for the home environment.

#### ***History of Mathematics in Early Childhood Education***

- Examine significant events in the evolution of early childhood mathematics education.
- Explore theories of early childhood mathematics education.
- Examine the effects of early childhood education on the position and policies of the National Council of Teachers of Mathematics (NCTM).
- Analyze the effects of teachers' perceptions of mathematics on teaching and on learning in the early childhood environment.

### ***The Teaching and Learning of Math in Early Childhood***

- Explore early childhood math concepts.
- Differentiate between conceptual understanding and procedural knowledge in the teaching and learning of math in early childhood.
- Identify developmentally effective methods of mathematics instruction.
- Examine literature sources that support mathematical understandings for the young child.
- Use problem-solving strategies to teach computation skills.
- Identify developmentally effective assessment strategies that demonstrate mathematical development.

### **Alignment with Illinois Standards for Early Childhood Educators**

The competent early childhood teacher demonstrates proficiency in the use of mathematics; understands and communicates the major concepts, procedures, and reasoning processes of mathematics, which include number systems, number sense, geometry, measurement, statistics, probability and algebra; and promotes the abilities of children from birth to grade 3 as they apply, interpret and construct mathematical thinking skills in a variety of situations.

#### **Knowledge Indicators**

The competent early childhood teacher:

- 1) understands problem-solving approaches that children may use to investigate and understand mathematical content;
- 2) understands various approaches (estimation, mental math, manipulative modeling, pattern recognition and technology) that can be used to explore and communicate mathematical ideas, solve problems and investigate everyday situations;
- 3) understands concepts, skills and procedures related to number, number sense, computation and numeration;
- 4) understands concepts, skills and procedures related to geometry and spatial relationships;
- 5) understands concepts, skills and procedures related to measurement of attributes such as length, weight, volume and temperature;
- 6) understands concepts, skills and procedures needed to collect and analyze data;
- 7) understands concepts, skills and procedures related to exploring concepts of chance; and
- 8) understands and uses patterns and relationships to analyze mathematical situations.

#### **Performance Indicators**

- 1) provides opportunities for students to apply problem-solving strategies in order to investigate and understand mathematical content;
- 2) uses various approaches (estimation, mental math, manipulative modeling, pattern recognition and technology) to assist students as they explore and communicate mathematical ideas, solve problems and investigate everyday situations;
- 3) provides opportunities for children to learn and apply number, number sense, computation and numeration in everyday situations;
- 4) provides opportunities for children to learn and apply geometry and spatial relationships in everyday situations;
- 5) provides opportunities for children to learn and apply measurements, such as length, weight, volume and temperature, in everyday situations;
- 6) provides opportunities for children to learn and apply procedures needed to collect and analyze data in everyday situations as they use graphing and estimation;
- 7) provides opportunities for children to learn and apply concepts of chance in everyday situations; and
- 8) provides opportunities for children to learn and apply patterns and relationships in their analysis of everyday situations.

#### **Foundational Mathematical Knowledge**

- 1) Mathematical Proficiency

The effective early childhood teacher:

- A) understands conceptually the mathematical content taught during preschool to grade 2 as well as the content taught in grades 3 to 8; can explain and apply mathematical concepts and procedures; and can make connections to everyday mathematical applications or real-world analogies necessary to translate formal mathematical content into meaningful instruction that children can understand and learn;
- B) understands the mathematical procedures taught during the early childhood years and just beyond, including the skills to link procedural knowledge to conceptual understanding so each step in a procedure can be explained or a procedure can be readily adapted to solve a novel problem; and
- C) possesses affective capacities, including a productive disposition with positive beliefs about mathematics (e.g., nearly everyone is capable of understanding at an elementary level) and the confidence to tackle challenging problems and teach mathematics.

## 2) Children's Mathematical Development

The effective early childhood teacher:

- A) understands how children develop mathematical proficiency from birth to age 8 and what conditions foster or impede this development;
- B) understands how informal mathematical knowledge based on everyday experiences develops and provides a basis for understanding and learning formal mathematics (i.e., school-taught and largely symbolic) during the early childhood years and beyond; and
- C) understands the developmental progressions of key early childhood concepts and skills.

## **Pedagogical Knowledge**

### 1) Best Practices

The effective early childhood teacher:

- A) understands the importance of using a variety of teaching techniques (including regular instruction that specifically targets mathematics, integrated instruction, and unstructured and structured play) and how to systematically and intentionally engage children with developmentally appropriate and worthwhile mathematical activities, materials and ideas; take advantage of spontaneous learning moments; structure the classroom environment to elicit self-directed mathematical engagement; and choose and use games to serve as the basis for intentional, spontaneous or self-directed learning;
- B) understands the importance of using instructional activities and materials or manipulatives thoughtfully and how these are used to transmit key concepts and skills;
- C) understands the importance of focusing on the learning of both skills and concepts that is meaningful;
- D) understands the importance of engaging children in the processes of mathematical inquiry (problem-solving, reasoning, conjecturing and communicating/justifying or "talking math") and how to do so effectively;
- E) understands the importance of fostering a positive disposition and how to do so effectively (e.g., encouraging children to do as much for themselves as possible), including how to prevent or remedy math anxiety; and
- F) understands the importance of using assessment on an ongoing basis in planning and evaluating instruction, targeting student needs and evaluating student progress.

### 2) Psychological Development

The effective early childhood teacher:

- A) understands the importance of building on what children already know, so that instruction is meaningful (e.g., how to relate or connect formal terms and procedures to children's informal knowledge);
- B) understands the importance of using developmental progressions effectively in assessing developmental readiness (e.g., identifying whether developmental prerequisites for an instructional goal have been acquired), planning developmentally appropriate instruction and determining the next instruction, step or a remedial plan;
- C) understands the importance of the limitations of children's informal knowledge and how developmentally inappropriate instruction can cause misconceptions or other learning difficulties, as well as how to address common learning pitfalls; and
- D) understands the importance of the progression in children's thinking from concrete (relatively specific and context-bound) to abstract (relatively general and context-free), including the need to help children "mathematize" situations (going beyond appearances to consider underlying commonalities or patterns).

## **Standards**

### 1) Counting and Cardinality:

The effective early childhood teacher:

- A) understands that subitizing (i.e., immediately and reliably recognizing the total number of items in small collections of items and labeling the total with an appropriate number word) is the basis for a learning trajectory of verbal-based number, counting and arithmetic concepts and skills;

- B) understands the requirements, components and principles of meaningful object counting (i.e., stable order principle, one-for-one principle, cardinality principle and abstraction principle);
- C) understands more advanced verbal and object counting skills on the learning trajectory for counting and cardinality and knows how these skills are logically and developmentally related;
- D) understands how children's ability to make verbal-based magnitude comparisons develops, including the mathematical ideas this entails;
- E) understands why written numbers (numerals) are valuable tools (e.g., can serve as a memory aid; make written calculations with large numbers easier or even possible) and how to promote the meaningful learning of numeral reading and writing to 10; and
- F) understands the role of estimation (e.g., useful when exact answers are not possible or an approximate answer is sufficient) and why children resist estimating answers (e.g., fear of being wrong, obsession with the correct answer).

## 2) Operations and Algebraic Thinking

The effective early childhood teacher:

- A) understands the specific addition and subtraction concepts and skills children need to learn in early childhood;
- B) understands the formal meaning of relational symbols and how these symbols are or can be interpreted by children; and
- C) understands the specific equal grouping and partitioning concepts and skills children need to learn in early childhood.

## 3) Numbers and Operations in Base Ten

The effective early childhood teacher:

- A) understands, can identify and can apply the fundamental concepts of grouping and place-value that underlie the Hindu-Arabic numeral system and operations with multi-digit numbers;
- B) understands the application of place value, the properties of operations, and the relation between addition and subtraction to adding and subtracting multi-digit numbers up to 1,000, including demonstrating and explaining regrouping (carrying and borrowing) algorithms with base-ten blocks

## 4) Numbers and Operations: Fractions

The effective early childhood teacher:

- A) understands, and can explain, two common meanings of fractions—equal partitioning of a whole and “fair” sharing of a set
- B) understands, and can justify, equivalent fractions using area models and the number line; and
- C) understands, and can justify, fraction comparisons using area models and the number line.

## 5) Measurement and Data

The effective early childhood teacher:

- A) understands the general principles of measurement (e.g., object attributes, direct and indirect comparisons, unit value);
- B) explicitly understands purposes of and procedures for measurements (e.g., length, time, currency, volume) commonly used in everyday life, including how to derive formulas for area and perimeter; and
- C) understands the role of data, data analysis and data representations (e.g., graphs, tables) in solving problems, raising or addressing issues or questions (e.g., scientific, social, economic or political), and informing others about the importance of involving participants in collecting and analyzing their own data.

## 6) Geometry

The effective early childhood teacher:

- A) understands the van Hiele developmental levels of geometric thinking and demonstrates achievement of at least Level 2 (i.e., Level 0, visual; Level 1, analysis; Level 2, informal reasoning or abstraction; Level 3, deduction; and Level 4, rigor);
- B) understands how the “big ideas” of composition and decomposition and equal partitioning apply to geometry and the developmental trajectory children follow in becoming competent composers and decomposers;
- C) understands basic geometric concepts, such as angle, parallel and perpendicular, and can describe these ideas in terms of an informal analogy (e.g., an angle is the “amount of turn”);
- D) understands the importance of precision in describing and reasoning about spatial locations and relationships, including descriptive power of prepositions (and their imprecise mapping among languages and dialects) and mathematically precise tools, such as measurements, grids and the coordinate plane;
- E) understands that spatial relationships can be manipulated mentally and that point of view affects both experiences and representations of spatial relationships; and
- F) describes the connections (relationships) between geometric properties and arithmetic and algebraic properties, and adapts a problem in one domain to be solved in the other domain.

## **Conceptual Framework**

“*Social Action through Education*” is the conceptual framework infused into all programs within the School of Education. The underlying beliefs or principles that form the foundation of this framework include sensitivity and concern for others as essential societal values, and the belief that caring for others will enhance the moral core of our communities and via a ripple effect, our society and the world as well. A desire to help others is an admirable first step, but collaborating cross-culturally to make a lasting impact beyond the level of the individual involves a more specialized set of competencies, some of which will be emphasized in this course. Improving the quality and effectiveness of early childhood mathematics education is a focus of this module. The following Conceptual Framework Standards are specifically addressed in this TLSC 360, with primary standards addressed in the module shaded:

CF Standards	Activities in TLSC 360
CFS1: Candidates critically evaluate current bodies of knowledge in their field.	- Class lectures and readings address the state of the field in relation to mathematics research and practices.
CFS2: Candidates apply culturally responsive practices that engage diverse communities.	- Candidates analyze instruction and assessment in classrooms serving diverse children.
CFS3: Candidates demonstrate knowledge of ethics and social justice.	-Candidates study research about math anxiety, opportunity gaps in access to high-quality math instruction, and stereotype threat.
CFS4: Candidates engage with local and/or global communities in ethical and socially just practices.	- Candidates reflect upon fieldwork opportunities in partner schools

## **Required Course Texts**

- Van de Walle, J. (2017). *Teaching Student-Centered Mathematics: Developmentally Appropriate Instruction for Grades Pre-K-2 (3rd Ed.)*, Pearson. ISBN-10: 9780134556437 (Please get the **3rd** edition.)
- All other course readings such as articles and links to videos will be provided in Sakai

## **Supplemental Texts and Materials**

- Flynn, M. (2017). *Beyond answers: Exploring mathematical practices with young children*. Stenhouse Publishers, Portland, ME.
- Heineke, A. J. & McTighe, J. (2018). *Using understanding by design in the culturally and linguistically diverse classroom*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Math manipulatives kit – these can be checked out from Dr. Kennedy and must be returned to him in Lewis Towers at the end of the course.

## Module Assignments

- **Dispositions Assessment: 10% of final grade**

The evaluation of your professionalism in Sequences 7 and 8 are linked to the TLLSC program dispositions. Each TLLSC module focuses on one or more professional dispositions. In order to receive full points for the area of Participation/Professionalism, you must earn Target ratings in *Professionalism, Inquiry* and *Social Justice*. The descriptions for the expected behaviors for the disposition(s) can be found on the rubric posted in LiveText for this course. The dispositions associated with Sequence 7 are:

### **Professionalism**

- **D2** Ground advocacy efforts in ethical convictions that promote social justice and affect policy design and implementation.
- **D8** demonstrating high levels of personal engagement and investment in all students' learning while remaining persistent in seeking strategies for reaching students who are not initially successful.
- **D17** Demonstrate a high level of professionalism through personal responsibility and accountability related to attendance, participation and communication.

### **Inquiry**

- **D6** Collect and analyze community, school, family, and student data to guide educational decision making.

### **Social Justice**

- **D1** Develop awareness that teaching is a complex practice with inherently political and ethical implications.
- **D3** Value diversity and advocate for all students, particularly those from populations that are historically disenfranchised, underserved and/or overrepresented (including, but not limited to race, ethnicity, culture, language, SES, immigration status, exceptionality, ability, sexual orientation, gender, gender identity).
- **D7** Value the unique identities and backgrounds of all students, families and communities as essential assets in learning environments.

- **Math Autobiography : 20% of final grade**

1<sup>st</sup> Version: Consider the role of math in your life so far and write a 2-page "math autobiography." Begin by briefly describing your experiences learning and using math as a child. Include both early experiences, and relevant experiences in high school and/or college. *How have your math learning experiences influenced how you feel about math? How have your social identities affected your math learning experiences and your continued use of math? How has your math past shaped how you use math in your daily life as an adult and your philosophy of doing math with children?*

2<sup>nd</sup>, Expanded Version: At the end of the course, expand on the math autobiography you wrote at the start. *How have your views of math changed as a result of this course? Has this new perspective made you think differently about your earlier experiences learning math? If so, how? Are you finding more math in your daily life? Are you finding more and different ways to discuss and do math with children?* Please describe and provide specific examples. Incorporate the majority of the autobiography you previously submitted as part of this expanded version. Cite course readings or class discussions when you describe their influence on your attitudes, confidence, and beliefs about the teaching and learning of math.

- **Reflections on Course Readings: 8% of final grade**

The seminar instructor will provide two opportunities for candidates to write one-page reflections on specific readings that are tied to current topics of early math education. These in-class written reflections will incorporate the candidates' experiences and observations in their field placement, and also provide a means to reflect upon their own intellectual and professional growth in relation to teaching and learning in urban communities.



- **Discussion Facilitation: 12% of final grade**

Each candidate will have the opportunity to facilitate seminar discussion. By preparing questions and honing techniques for professional discourse, candidates will deepen their understanding of assigned readings and learn from and with peers in a professional learning community.

- **Math Lesson Plans: 15% of final grade**

Candidates will develop two math activities using the course lesson plan. One lesson plan must be a math game; another lesson plan must be based on a children's book. Activities can include whole group or small group instruction. Candidates will share lesson plan ideas during class meetings. Lesson plans will be given feedback by the instructor with the opportunity to reflect and revise. (See Lesson Plan rubric for more details)

- **Math Clinical Interview: 15% of final grade**

Candidates will view a video case that includes several clinical interview tasks with an individual child. Candidates will document the child's responses and write an analysis of what the data mean in terms of the child's learning trajectories and implications for instruction and differentiation. (See assignment handout for more details.)

- **Lesson Analysis: 20% of final grade**

For this assignment, candidates analyze video cases using a quadruple "lens" approach (e.g. task, learning, teaching, power & participation) to analyze each case. These analytical lenses will be applied multiple times throughout the course. This practice supports candidates to examine children's mathematical ideas (e.g. concepts, skills, problem-solving strategies); knowledge resources (e.g. mathematical, family, community, cultural, linguistic, personal); participation and status issues; and instructional strategies that facilitate mathematical thinking and reasoning of students with varied cultural and linguistic backgrounds, math experiences and confidences. (See assignment handout for more details.)

## **Module Grading**

### **Grading Policy & Scale:**

The final grade is based upon the completion of all course requirements.

**A** = 92-100%   **A-** = 90-91%   **B** = 83-89%   **B-** = 80-82%   **C** = 75-79%   **C-** = 70-74%   **D** = 60-69   **F** = below 60

<b>Assignment</b>	<b>Submitted to:</b>	<b>Points</b>
Dispositions Assessment (Participation and Professionalism)	Digication	10
Math Autobiography—Versions 1 & 2	Sakai	20
Discussion Facilitation	Sakai	12
Reflection on Course Readings	Sakai	8
Math Lesson Plans	Sakai	15
Clinical Interview Analysis	Sakai	15
Lesson Analysis	Sakai Digication	20

### **Late Work/Re-Submissions:**

The timely completion of required readings, videos, and assignments is key to getting the most out of the course. When you need more time, let the instructor know in advance of the due date and communicate your plan for completing the work. There is no grade penalty for late work. Work will be accepted at any time; however, poor communication or follow-through with the make-up plan will be reflected in your Dispositions Assessment as it reflects on your participation and professionalism. Re-submissions will be accepted until **Friday, December 17, 2021**.

**TLSC 360 Weekly Overview**

<b>Week/ Class Date</b>	<b>Focus</b>	<b><u>Complete Prior to Class</u></b>	<b><u>Assignments</u> Due by 4:15 PM on Class Date</b>
#1 August 31	<b><i>Why Do Math in ECE?:</i></b> History & What Research Tells Us		
#2 September 7	<b><i>Who Does Math in ECE?:</i></b> Identity, Access, & Equity	<u>Read:</u> - <i>Beyond Answers</i> by Mike Flynn—Introduction - <i>Mathematics Education Through the Lens of Social Justice</i> by NCSM & TODOS	Math Autobiography Essay Version 1 Due Tues., Sept. 7
#3 September 14	<b>Sorting &amp; Sets:</b> Foundations of Mathematics	<u>Read:</u> - <i>Standards for Mathematical Practice: Commentary and Elaborations for K–5</i>	
#4 September 21	<b>Number as Attribute:</b> <i>How Many of What?</i>	<u>Read:</u> - <i>Teaching Student-Centered Math</i> by Van de Walle — Chapter 8: Developing Early Number Concepts *In class written reflection #1	
#5 September 28	<b>Principles of Counting &amp; Assessing for Understanding</b>	<u>Read:</u> - <i>Teaching Student-Centered Math</i> by Van de Walle — Chapter 3: Creating Assessment for Learning -“ <i>Indefensible, Illogical, and Unsupported</i> ”; <i>Countering Deficit Mythologies about the Potential of Students with Learning Disabilities in Mathematics</i> by Lambert Article Discussion Facilitator <b>Nathan</b>	
#6 October 5	<b>Number Relationships &amp; Fluency with Basic Combinations</b>	<u>Read:</u> - <i>Teaching Student-Centered Math</i> by Van de Walle — Chapter 10: Helping Children Develop Fluency with Basic Facts, pp. 180-196 only - <i>Why Children Have Difficulties Mastering the Basic Number Combinations and How to Help Them</i> by Baroody Article Discussion Facilitator <b>Kellianne</b>	
October 12	<b>NO CLASS: MID-SEMESTER BREAK</b>		

Week/ Class Date	Focus	<u>Complete Prior to Class</u>	<u>Assignments</u> Due by 4:15 PM on Class Date
#7 October 19	<b>Developing Meaning for Addition &amp; Subtraction</b>	Read: - <i>Teaching Student-Centered Math</i> by Van de Walle – Chapter 11: Developing Whole-Number Place-Value Concepts	Lesson Plan 1: Math game to build number sense/fluency. Be prepared to share game in class on Oct. 19
#8 October 26	<b>Place-Value Concepts</b>	Read: - <i>Teaching Student-Centered Math</i> by Van de Walle – Chapter 9: Developing Meaning for the Operations, pp. 146–163 only	
#9 November 2	<b>Children’s Computation Strategies</b>	Read: - <i>Teaching Student-Centered Math</i> by Van de Walle – Chapter 12: Building Strategies for Whole-Number Computation *In-class written reflection #2	
#10 November 9	<b>Algebraic Thinking</b>	Read: - <i>Teaching Student-Centered Math</i> by Van de Walle – Chapter 13: Promoting Algebraic Reasoning - <i>Calendar Time for Young Children: Good Intentions Gone Awry</i> by Beneke, Ostrosky, & Katz Article Discussion Facilitator <b>Juliet</b>	Clinical Interview Analysis Paper Due Tues., Nov. 9
#11 November 16	<b>Geometric Reasoning &amp; Spatial Thinking</b>	Read: - <i>Teaching Student-Centered Math</i> by Van de Walle – Chapter 16: Developing Geometric Reasoning and Concepts - <i>Why Spatial Reasoning is Crucial for Early Math Education</i> from KQED (also watch videos) Article Discussion Facilitator <b>Kelly</b>	
#12 November 23	<b>Measurement</b>	Read: - <i>Teaching Student-Centered Math</i> by Van de Walle – Chapter 15: Building Measurement Concepts	
#13 November 30	<b>Fractional Thinking</b>	Read: <i>Can Kindergartners Do Fractions?</i> By Cwikla Article Discussion Facilitator <b>Sydney</b>	Lesson Plan 2: Activity based on a children’s book. Be prepared to share book/activity in class Nov. 30
#14 December 7	<b>Data Analysis: Putting It All Together</b>	Read: <i>Why Do We Teach?</i> by Schoenfeld Article Discussion Facilitator <b>Madeline</b>	Lesson Analysis Paper Due Tues., Dec. 7
#15 December 14	<b>NO CLASS: FINALS WEEK</b>		Math Autobiography Personal Essay Version 2 Due Tuesday December 14 <b>Re-submissions due by Fri., Dec. 17</b>

## School of Education Syllabus Addendum

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### Smart Evaluation

Towards the end of the course, students will receive an email from the Office of Institutional Effectiveness reminding them to provide feedback on the course. They will receive consistent reminders throughout the period when the evaluation is open, and the reminders will stop once they have completed the evaluation.

- The evaluation is completely anonymous. When the results are released, instructors and departments will not be able to tell which student provided the individual feedback.
- Because it is anonymous and the results are not released to faculty or departments until after grades have been submitted, the feedback will not impact a student's grade.

The feedback is important so that the instructor can gain insight in to how to improve their teaching and the department can learn how best to shape the curriculum.

### The 13 possible objectives you will select from are listed below:

1. Gaining a basic understanding of the subject (e.g., factual knowledge, methods, principles, generalizations, theories)
2. Developing knowledge and understanding of diverse perspectives, global awareness, or other cultures
3. Learning to apply course material (to improve thinking, problem solving, and decisions)
4. Developing specific skills, competencies, and points of view needed by professionals in, the field most closely related to this course
5. Acquiring skills in working with others as a member of a team
6. Developing creative capacities (inventing; designing; writing; performing in art, music, drama, etc.)
7. Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, literature, etc.)
8. Developing skill in expressing oneself orally or in writing
9. Learning how to find, evaluate and use resources to explore a topic in depth
10. Developing ethical reasoning and/or ethical decision making
11. Learning to analyze and critically evaluate ideas, arguments, and points of view
12. Learning to apply knowledge and skills to benefit others or serve the public good
13. Learning appropriate methods for collecting, analyzing, and interpreting numerical information

### Dispositions

All students are assessed on one or more dispositional areas of growth across our programs: **Professionalism, Inquiry, and Social Justice**. The instructor in your course will identify the dispositions assessed in this course and you can find the rubrics related to these dispositions in LiveText. *For those students in non-degree programs, the rubric for dispositions may be available through Sakai, TaskStream or another platform.* Disposition data is reviewed by program faculty on a regular basis. This allows faculty to work with students to develop throughout their program and address any issues as they arise.

### LiveText and Digication

All students, *except those who are non-degree*, may have access to LiveText to complete the benchmark assessments aligned to the Conceptual Framework Standards and all other accreditation, school-wide and/or program-wide related assessments. You can access more information on LiveText here: [LiveText](#).

Digication is Loyola's ONLINE portfolio platform. Many of the School of Education programs utilize Digication for Assessment and data collection to manage accreditation and licensure requirements. Your professor and Program Chair will work with you to better understand submission requirements that are specific to courses and programs.

### **Privacy Statement**

Assuring privacy among faculty and students engaged in online and face-to-face instructional activities helps promote open and robust conversations and mitigates concerns that comments made within the context of the class will be shared beyond the classroom. As such, recordings of instructional activities occurring in online or face-to-face classes may be used solely for internal class purposes by the faculty member and students registered for the course, and only during the period in which the course is offered. Students will be informed of such recordings by a statement in the syllabus for the course in which they will be recorded. Instructors who wish to make subsequent use of recordings that include student activity may do so only with informed written consent of the students involved or if all student activity is removed from the recording. Recordings including student activity that have been initiated by the instructor may be retained by the instructor only for individual use.

### **Student Support**

#### *Special Circumstances--Receiving Assistance*

Students are urged to contact me should they have questions concerning course materials and procedures. If you have any special circumstance that may have some impact on your course work, please let me know so we can establish a plan for assignment completion. If you require assignment accommodations, please contact me early in the semester so that arrangements can be made with Student Accessibility Center (SAC) (<http://www.luc.edu/sac/>).

### **Center for Student Access and Assistance (CSAA)**

Should you encounter an unexpected crisis during the semester (e.g., securing food or housing, addressing mental health concerns, managing a financial crisis, and/or dealing with a family emergency, etc.), I strongly encourage you to contact the Office of the Dean of Students by submitting a CARE Referral for yourself or a peer in need of support: [www.LUC.edu/csaa](http://www.LUC.edu/csaa). If you are uncomfortable doing so on your own, please know that I can submit a referral on your behalf.

This link directs students to statements on essential policies regarding *academic honesty*, *accessibility*, *ethics line reporting* and *electronic communication policies and guidelines*. We ask that you read each policy carefully.

This link will also bring you to the full text of our conceptual framework that guides the work of the School of Education – ***Social Action through Education***.

### **Syllabus Addendum Link**

<https://www.luc.edu/education/academics/syllabi/>