



LOYOLA UNIVERSITY CHICAGO

Preparing people to lead extraordinary lives

Teaching, Learning, and Leading with Schools and Communities
School of Education, Loyola University
Chicago Fall Semester 2016

LUChoice Graduate Sequence 4 - Elementary

TLLSC 420: Teaching Mathematics in Elementary Classrooms

TLSC 421: Teaching Science in Elementary Classrooms

TLLSC 422: Teaching Social Studies in Elementary Classrooms

Instructor Information		
TLSC 420 08/29/2016 -09/26/2016 Name: Cynthia Nelson Email: cbushar@luc.edu Office: LT 1020B Office hours: Appointment	TLSC 421 10/3/2016 - 11/4/2016 Name: Lara Smetana, Ph.D. Email: LSmetana@luc.edu Office: LT 1042 Phone: 312.915.6273 Office hours: Appointment	TLSC 422 11/7/2016 - 12/9/2016 Name: Ambareen Nasir Email: anasir1@luc.edu Office hours: Appointment

Days & Times: Mondays, 7 p.m. to 9:30 p.m. & Online

On-Campus Location: Cudahy Science Building (Lake Shore Campus) - Room 314

Module Descriptions

420 Module Description

During this rigorous module, candidates learn effective methods for teaching mathematics in the elementary school. The module takes a student centered, problem solving approach that targets conceptual understanding for diverse learners. This sequence addresses TLLSC Enduring Understandings 3, 6, 7, and 9.

421 Module Description

One way to think about teaching science is to understand science as a culture. People who are scientifically literate can talk, think, act, and identify within the community of science. They understand the beliefs, ways of knowing, and central assumptions that constitute science. They understand how science is constructed, communicated, and used. We will spend our time together exploring what it means to learn and do science and engineering in different contexts. We will also reflect upon the possible implications for teaching science and creating opportunities for all students to participate in the culture of science.

422 Module Description

This sequence addresses the content areas of instruction with a specific focus on elementary grade classrooms. Teacher candidates will be introduced to the discipline of social studies, have experiences engaging in the teaching and learning in this discipline, and specifically work to integrate literacy into social studies.

IDEA Objectives:

- Gaining factual knowledge (methods)
- Learning to apply course materials
- Developing specific skills, competencies, and points of view needed by professionals in the field

420 Essential Questions:

- How do teachers teach elementary mathematics in a developmentally appropriate way?
- How do teachers of elementary mathematics teach conceptual understanding of mathematics?
- How do teachers adjust and adapt learning materials and instruction for diverse learners?
- How is problem solving most effectively taught for transfer and modeling?

421 IDEA Objectives

During this module, through large and small group instruction and discussion, hands-on learning experiences, fieldwork, and reflection, you will work toward the following *essential* instructional objectives:

- Gaining a broader understanding and appreciation of science as an intellectual and cultural activity
- Learning how to find and use resources for answering questions or solving problems
- You will also work toward the following *important* instructional objectives:
- Developing specific skills, competencies, and points of view needed by teaching professionals
- Learning to apply course material in the classroom setting

421 Essential Questions:

- How have others defined scientists and what are the implications of various understandings and misunderstandings of science?
- What is culturally relevant teaching in science?
- How might teachers meet the needs diverse learners through acknowledging and building upon their prior experiences, beliefs and values?
- How might informal learning resources support and enhance science curriculum, as well as provide relevancy to student's learning?
- How are science, technology and engineering related; how are they distinct?
- How have the Next Generation Science Standards impacted science and engineering education?

422 IDEA Objectives:

- Developing specific skills, competencies, and points of view needed by teaching professionals
- Learning how to find and use resources for answering questions or solving problems
- Learning to apply course material in the classroom setting

422 Essential Questions:

- What is social studies? How does that differ from the social sciences?
- What is history and what is its relationship to social studies and the social sciences?
- What is the value of teaching and learning social studies in schools?
- How is literacy in content areas such as social studies supported?
- What is the importance of argumentation and writing in the discipline of social studies?
- What are the social and personal implications of the social studies?

Essential Understandings**TLLSC 420 Essential Understandings:**

- Incorporate research and evidence-based practices into the design of instruction (e.g. UbD, IB, SIOP and UDL). (5S; 9A) (IB)
- Design a standards-based instructional lesson that uses backward design (e.g. UbD) to align objectives with formative assessments and instructional practices based on high expectations for each student's learning and behavior. (3H; 3I) (IB)
- Select relevant instructional content, materials, resources and strategies for differentiated and universally designed instruction. (3Q; 5O) (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 on 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)

421 Essential Understandings

EU 3 Candidates will understand that effective educators use research and evidence-based practices to design instruction that includes the alignment of goals, objectives, assessments and instructional strategies to meet the individual needs of students.

EU 6 Candidates will understand that effective educators apply deep understanding of both content and pedagogy to provide developmentally appropriate instruction to all students.

EU 8 Candidates will understand that effective educators explicitly integrate the teaching of

reading, writing, communication and technology across content areas.

EU 11 Candidates will understand that effective educators maintain and utilize global perspectives and international-mindedness when engaging in teaching, learning and leading, including the awareness and application of the social, cultural, inter-cultural and linguistic facets of student achievement.

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As Part of this sequence, candidates will:

EU3 K1 Identify what constitutes research and evidence-based practices related to designing and implementing instruction. (c1G) (IB)

EU3 K2 Explain the scope and sequence in relevant standards (national, IL, CCSS). (c1A)

EU3 K3 Explain how to adjust scope and sequence in standards-based curriculum maps to meet the needs of diverse learners. (c1A) (IB)

EU6 K1 Describe the important facts and central concepts, principles, and theories associated with their certified content areas. (b1B, b1G)

EU6 K2 Identify the content standards and the scope and sequence of the subject area of their certified content areas. (b1B)

EU6 K3 Describe how their subject is related to other disciplines. (b1D) (IB)

EU6 K7 Describe content-specific instructional strategies.

EU6 K8 Explain the various models of co-teaching and the procedures for implementing them across the curriculum. (h1G) (IB)

EU6 K9 Describe how to conduct and interpret appropriate content specific assessments. (g1A, g1G)

EU6 K10 Describe appropriate technologies to enhance student learning (b1F, c1E) (IB) EU11

K2 Describe how global issues can be infused into instructional practice to inspire inter-cultural awareness and international mindedness. (i1G) (IB)

EU11 K6 Describe how instruction utilizes transdisciplinary/interdisciplinary units to incorporate inquiry into multiple perspectives, diverse cultures, and global issues.

EU3 S1 Consult academic texts or journals to read current research on designing instruction (i1A) (IB)

EU 3 S2 Incorporate research and evidence-based practices into the design of instruction (e.g. UbD, IB, SIOP and UDL). (e2K, i1A) (IB)

EU3 S3 Use standards-based curriculum maps (e.g. UbD) to design units and lessons to meet the needs of diverse learners. (c2J, c2B) (IB)

EU 3 S8 Select relevant instructional content, materials, resources and strategies for differentiated, universally designed instruction and sheltered instruction. (c2J, e2G)

(IB)

EU6 S1 Integrate connections between their content area and the other content areas. (b2F, c2E)

(IB)

EU6 S2 Use students' prior knowledge and experience to introduce new subject-area related content. (a2B, b1G, c2D) (IB)

EU6 S5 Create and select activities that are designed to help students develop as independent learners and complex problem-solvers. (a1B, e2A, e2D) (IB)

EU6 S6 Evaluate, select, and integrate a variety of research-based strategies such as inquiry, cooperative learning, discussion, discovery, problem-based learning, and direct instruction into a coherent lesson design. (c2J, e2A, i1A) (IB)

EU6 S7 Make developmentally appropriate choices in selecting teaching strategies to assist diverse learners in meeting instructional strategies. (a2C, b1E) (IB)

EU6 S8 Use effective co-planning and co-teaching techniques to deliver instruction to all students. (c2J, e2I, h2E) (IB)

EU6 S9 Demonstrate the ability to recognize and value student diversity and the differences in how students learn and provide instruction to accommodate such diversity. (a1A, a2A, b2E, b1E, c2J, e2E) (IB)

EU6 S10 Use questions and questioning to assist all students in developing skills and strategies in critical and high-order thinking, inquiry, and problem solving. (b2C) (IB)

EU6 S11 Use resources and multiple representations of content effectively, including technology, to enhance student learning. (b2A, b2B, b2D, b2E, b2G) (IB)

EU6 S12 Reflect and analyze past lessons to improve in the future. (i2C) (IB)

EU11 S2 Plan instruction to support students' structured inquiry into global issues to inspire inter-cultural awareness and international mindedness. (b2C) (IB)

EU11 S6 Collaborate to build and sustain a classroom and school environment that incorporates and values cultural, inter-cultural, linguistic and global diversity and issues. (a2D, g2D, h2A)

(IB) **EU11 S7** Engage in different ways of knowing within or across various disciplines. (b2B) (IB)

Conceptual Framework

This course embodies the conceptual framework –*Social Action through Education*– of the School of Education (SOE) at Loyola University Chicago. As teachers, we recognize our connection to students as individuals and as members of a larger community. We serve others (students as well as families and communities) by creating experiences that encourage creative, moral and intellectual development. Leaders in our classrooms and larger school communities, we must consider how education can be transformational and how we might be agents of change. In this course sequence, we will explore what it means to hold high expectations for all learners that include academically challenging, personally and socially relevant knowledge and complex learning skills. In order to successfully provide opportunities for youth to meet these expectations, we must also be committed to reflecting on our own practice and to continually developing our own knowledge, skills and professional dispositions.

Dispositions

Each sequence and module in the Teaching and Learning with Schools and Communities Program (TLSC) focuses on several professional dispositions. Candidates are offered opportunities to receive feedback on their dispositional growth. The teacher candidate commits to appropriate professional and interpersonal behaviors in this module by:

420 Dispositions Assessment:

- D7 valuing the unique identities and backgrounds of all students, families and communities as essential assets in learning environments.
- D 9 recognizing his/her own point of view and biases about diverse learners and how this perspective can impact teaching and learning.
- D13 acknowledging one's ability to influence the motivation and achievement of students and to attain positive learning results using his/her personal and professional capacities. (d.1.D)
- D16 Valuing and promoting curiosity and creativity in students.

421 Dispositions Assessment:

- D4 demonstrating professionalism and reflective practice in collaborating with teachers, students, administrators, families, and communities to improve achievement for all students. (9N) (IB)
- D5 participating in ongoing professional development, reading, and research in order to deepen their knowledge and expand their repertoire of skills. (9O) (IB)
- D7 valuing and utilizing the unique identities and backgrounds of all students, families and communities as essential assets in learning environments. (9L, 9N) (IB)
- D9 demonstrating that authentic literacy instruction is the responsibility of all teachers, across all disciplines and grade levels. (2H, 6A) (IB)
- D15 valuing and promoting curiosity, creativity, and life-long learning in students. (IB)

422 Dispositions Assessment:

- D4 Demonstrating professionalism and reflective practice in collaborating with teachers, students, administrators, families, and communities to improve achievement for all students.
- D5 Participating in ongoing professional development, reading, and research in order to deepen their knowledge and expand their repertoire of skills.
- D7 Valuing and utilizing the unique identities and backgrounds of all students, families and communities as essential assets in learning environments.
- D9 Demonstrating that authentic literacy instruction is the responsibility of all teachers, across all disciplines and grade levels.
- D15 Valuing and promoting curiosity, creativity, and life-long learning in students.

Diversity

Course instructors strive to facilitate an inclusive environment respectful of all members of the class community with appreciation and respect for age, ability, color, creed, cultural background, ethnicity, gender identity or expression, national origin, race, religious affiliation or spiritual affinity, sexual orientation, socioeconomic class, or other status. If you are a student who requires any special considerations, please inform the instructor during the first week of class.

Sequence Four Professionalism and Participation Policies:

It is expected that teacher candidates in Sequence Four partner sites will demonstrate high levels of professionalism and responsibility in all aspects of their work in this sequence. In order to complete the module assessments and requirements in a satisfactory manner, candidates must be present for all sessions, while in partner classrooms, sequence instructional sessions on campus and at any informal partner sites. In the event of approved absences, candidates should contact their professors and school sites in the manner that is requested by the administration at the respective

schools. The following guidelines for participation will be considered in the module grades.

Professional Attitude and Demeanor Part I

- 2-Always prompt and regularly attend sessions. (no absences or tardies)
- 1-Rarely late and regularly attend sessions (No more than 1 absence).
- 0-Often late and/or poor attendance at sessions (More than 2 absences).

Professional Attitude and Demeanor Part II

- 2-Always prepared for sessions with assignments and required materials.
- 1-Rarely unprepared for sessions with assignments and required materials.
- 0- Often unprepared for sessions with assignments and required materials.

Level of Engagement in Class

- 2-Always a willing participant. Contributes by taking initiative, offering ideas and asking questions in sessions, small groups and classroom sessions.
- 1-Often a willing participant. Contributes by taking initiative, offering ideas and asking questions in sessions, small groups or classroom sessions
- 0-Rarely a willing participant. Rarely contributes to sessions by taking initiative, offering ideas or asking questions.

Integration of Readings into Classroom Participation

- 2-Often cites from readings; use readings to support points.
- 1-Occasionally cites from readings; sometimes use readings to support points.
- 0-Rarely cite from readings; rarely use readings to support points.

Listening Skills

- 2-Listens when others talk, both in groups and in sessions. Incorporate or build off of the ideas of others.
- 1-Listens when others talk, both in groups and in sessions
- 0-Rarely listens when others talk, both in groups and in sessions.

Course Evaluation

Grading

All assignments will be graded using the rubrics posted on Sakai and LiveText throughout the semester. Each assignment will be calculated into the total number of points for the course. The number of points earned will be divided by the number of points possible, and a letter grade will be assigned using the scale below.

Assignments and readings are due on the dates listed on the course syllabi unless permission to hand them in late is given. Conflicts with an assignment deadline should be discussed and resolved prior to the assignment's due date. Late work will only be accepted under special circumstances (e.g., family emergency, illness). Please *contact your professor* in person or by phone or email *prior to any given due date* to discuss assignment extensions requests. Failure to do so in a timely manner will result in significant grade deductions. **Computer or technical problems are not an acceptable excuse for late work.**

Unless otherwise noted, all assignments must be typed. Please double-space your work and use 12 point font. Attend closely and carefully to spelling and grammar. If referencing course or other textual materials, please follow American Psychological Association style guidelines (APA – 6th edition). You can access the APA style manual through Loyola University Chicago's libraries or online at <http://www.apastyle.org>.

Also, as a reminder, all assignments in this course will be submitted via **LiveText**. Please make

certain you have activated your LiveText account if you have not already done so.

Grading Scale:

A	93 - 100
A-	90 - 92
B+	87 - 89
B	83 - 86
B-	80 - 82
C+	77 - 79
C	73 - 76
C-	70 - 72
D	61 - 69
F	60 - 0

Sequence Four Summative Assessment:

Throughout the semester, you will complete a Sustainability Literacy project where you explore a local sustainability issue. The purpose is to engage in an authentic, sustainability inquiry experience as a learner and also consider what the experience affords you as a teacher preparing to work with elementary school students.

TLSC 420 Assignments

Greater detail and rubrics will be provided for all assignments on Sakai.

Course Participation – 20%

Candidates are expected to consistently and actively participate in all class activities in discussions. Since much of this module takes place in a school, candidates are expected to dress and act professionally. They must arrive on time and stay for the duration of the class session. Class sessions will build directly on assigned readings; candidates must come to class having read all assigned texts and articles.

Article Reflections – 20%

Candidates will reflect on or make sense of the experiences you have during this module in response to classic pieces of mathematics education research. Each week, candidates will be assigned a different article to read and reflect on how the article pertains to learning, doing and teaching mathematics.

Mathematics Problem Sets– 20%

Each week, candidates will also complete problem sets in key content areas in mathematics. Problem sets will focus on how students learn mathematics as well as how to teach specific content areas in mathematics.

Field Experience Observations and Reflections – 15%

Each week, candidates will be assigned a specific focus area to observe and analyze in their field experiences. Candidates will take notes on their observations and reflect on their experiences.

Math Discussion Plan – 25%

Using a common template, candidates will create and organize a Math Discussion plan. Candidates will select a rich problem to pose to students that would promote a math discussion. Candidates will anticipate student misconceptions that may arise and specify math vocabulary and talk moves that would be used in the discussion.

TLSC 421 Assignments

Greater detail and rubrics will be provided for all assignments on Sakai.

Course Participation – 10%

During each on-campus course session and with each online course assignment, you will earn points for your participation. Lack of participation, late arrival, and lack of preparation will impact your earned points. You will not be able to earn participation points if absent to on-campus course session, or for late online assignments.

Science Self-documentation Project – 20%

Through individualized learning experiences, science comes alive, encourages developing deeper understandings about connections between the natural and physical world and the needs and interests within their own lives (Falk & Dierking, 2000). With this project, you will document and reflect upon your and your students' science learning and teaching ecosystems.

Science Talk – 20%

This assignment asks you to *formatively* assess your students on their understanding of specific science topics, the types of experiences or knowledge bases they draw upon to make sense of the world, and what they wonder about or have questions about in connection to science. This assignment is a great opportunity to learn about and from your students and think about how what they know and want to know can inform your science lessons/units.

Engineering Education Essay – 20%

You will be learning about the disciplines of science and engineering, how they relate and differ. This assignment asks you to apply your understandings as you prepare to work with elementary aged students.

Field Experience Observations and Reflections – 10%

Each week, candidates will be assigned a specific focus area to observe and analyze in their field experiences. Candidates will take notes on their observations and reflect on their experiences.

Weekly Reading Responses – 20%

You will respond to readings each week, reflecting on and making sense of the experiences you have during this module.

TLSC 422 Assignments

Greater detail and rubrics will be provided for all assignments on Sakai.

Required Texts, Readings and Resources

TLSC 420

Beckmann, S. (2014) *Mathematics for Elementary Teachers*, 4th edition.

Principals and Standards for School Mathematics NCTM

Common Core State Standards for Mathematics

TLSC 421

Michaels, Sarah, Shouse, Andrew W., Schweingruber, Heidi A. *Ready, set, science!:*

Putting research to work in K-8 science classrooms. Washington, DC: The National Academies Press, 2007.

***Note that this book is available for free download at www.nap.edu

Settlage, J. & Southerland, S.A. (2012). *Teaching science to every child: Using culture as a starting point* (2nd ed.). New York, NY: Routledge.

***Note that this book is available on reserve in Lewis Library

TLSC 422

Levstik, L.S. & Barton, K.C. (2010). *Doing history: Investigating with children in elementary and middle schools*, 4th ed. NY: Routledge. ISBN: 978-0-415-87301-7

***Note that this book is available on reserve in Lewis Library

Ogle, D., Klemp, R., & McBride, B. (2007). *Building literacy in social studies: Strategies for improving comprehension and critical thinking.* Alexandria, VA: Association for Supervision and Curriculum Development. ISBN: 978-1-4166-0558-4

Yaeger, E.A. & Davis, O.L. (Eds.). (2005). *Wise social studies teaching in an age of high stakes testing: Essays on classroom practices and possibilities.* Greenwich, CT: Information Age Publishing. ISBN: 1-59311-372-2

Loyola University Chicago School of Education Syllabus Addendum

IDEA Course Evaluation Link for Students

Each course you take in the School of Education is evaluated through the IDEA Campus Labs system. We ask that when you receive an email alerting you that the evaluation is available that you promptly complete it. To learn more about IDEA or to access the website directly to complete your course evaluation go to: <http://luc.edu/idea/> and click on **STUDENT IDEA LOGIN** on the left hand side of the page.

Dispositions

All students are assessed on one or more dispositional areas of growth across our programs: **Professionalism, Fairness, and the Belief that All Students Can Learn.** 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. 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

All students, except those who are non-degree, must 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](#).

Syllabus Addendum Link

www.luc.edu/education/syllabus-addendum/

The above 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*.