Updated July 2023

StFX Master of Education in Mathematics Teaching and Learning
Summer 2023-Summer 2025

The StFX Faculty of Education proposes to offer an MEd (Curriculum and Instruction) in Mathematics for qualified in-service educators, coaches, mentors, and administrators beginning in Summer 2023. This cohort is designed to enhance mathematics knowledge for teaching and allow participants to examine current research in mathematics teaching and learning.

This graduate cohort begins with 2 courses in the month of July delivered in a synchronous online format and remaining courses will be completed synchronously ("live") online. Most often, synchronous online courses will be offered from 6:00-9:00 pm AT except for summer courses in July 2025 which will follow the same format as the first summer. Graduate students should ensure that they have adequate personal resources (computer and internet connections) to support distance learning. Laptops/desktop computers are preferred as it is not possible to access all the features of the online platform if tablets and notebooks are used.

Tentative Program Sequence and Outline:

LOCATION	SUMMER 2023	FALL 2023	WINTER 2024	SPRING 2024	SUMMER 2024	FALL 2024	WINTER 2025	SPRING 2025	SUMMER 2025
Online	534 505	532	527	520C	521C 518	536	513	544	508 576

EDUC 534
Foundations of Education
This course provides graduate students with an opportunity to deepen their understanding and awareness of how issues of power and privilege have shaped their own and their students' lives. Educators will (re)think their pivotal role as teachers of mathematics alongside larger issues of equity and social justice.

EDUC 505
Introduction to Education Research
This course introduces graduate students to approaches to educational research, particularly as it relates to mathematics teaching and learning. It also includes a basic introduction to graduate student writing and literature review methodology.

EDUC 520C
Current Research in Curriculum: Mathematics
A critical exploration of recent theories and research related to current issues in curriculum with a concentration in mathematics. In this course, students will explore how mathematical ideas develop throughout the grades. Topics covered will include an overview of quantitative reasoning including number systems and operations, algebraic reasoning, statistical and probabilistic reasoning exploring the ways in which we gather, organize and explain data, and spatial reasoning including the implications of this across content strands.

EDUC 527
Principles of Learning
This course examines theories of learning and development and their implications for instruction. In addition to the general cognitive and behaviourist theories, the course will focus on the aspects of cognitive learning that are relevant to understanding the diversity of learners. Teachers will explore current theories and their implications for practice.

EDUC 532
Curriculum Theory
In this course, the ideas of major curriculum theorists will be examined and the implications of each position for program development for schooling will be explored.

EDUC 521C
Current Research in Instruction: Mathematics
This course offers a critical exploration of recent theories and research related to current issues in instruction with a concentration in mathematics. Students will examine current approaches to engaging students in meaningful mathematics learning and explore how these instructional strategies are manifested at different grade levels. Explorations of concrete materials, mathematical modelling, problem solving, discourse, and engagement will form the foundation of the course.

EDUC 518
Assessment for/as/of learning
The course explores research that informs how appropriate assessment impacts student motivation, engagement and achievement. Formative assessment will be presented as a process that directly involves both students and teacher in generating quality information that informs the decisions teachers and students make before, during, and after instruction. Practical classroom examples and/or case studies will be explored. The course will also explore summative assessment and critically analyze a variety of tools used to evaluate

learning with the aim of finding those that align with current research in assessment. Students will gain the skills necessary to critically evaluate and develop effective assessment approaches in mathematics.

EDUC 536
Program Development
This course helps teachers to explore broader concepts in program development including ideas relating to integrating curriculum, focusing on inquiry, and teaching 21st century competencies in a complex, mixed-ability classroom.

EDUC 513
Contemporary Theories and Trends in Inclusive Education: Mathematics Education
This course will focus on evidence-based approaches to implementing inclusive education in diverse contexts, including differentiation, Universal Design for Learning, Multi-Tiered Systems of Support, and trauma-informed practices.

EDUC 544
Cross-cultural issues in Education: Decolonizing Mathematics Education
Students will examine various issues and theories related to culture in the mathematics classroom and curriculum. Strong links are made in current research between a child's home culture and language, and the learning of mathematics. In this course students will be expected to conduct a thorough examination of relevant research and use this knowledge to develop culturally appropriate approaches to the teaching of mathematics. This will include an examination of the role of ethnomathematics in education and the exploration of the development of mathematical concepts in various cultures around the world, including local Indigenous and African Nova Scotian cultures. Teachers in this course will also examine approaches for promoting equity in the mathematics classroom such as teaching through social justice approaches, inquiry-based learning, and culturally responsive teaching. Students will be expected to develop resources that can be used to teach math in various cultural contexts.

EDUC 508
Critical Research Literacy in Education
This course focuses on reading and interpreting educational research in relation to one's own context as it relates to mathematics teaching and learning in schools and beyond. Graduate students will explore a variety of research publications that focus on mathematics education to explore critical elements of research in relation to these publications. Participants will review literature of a topic relevant to their own interest.

EDUC 576
Specific Issues in Curriculum Development
This course will examine selected contemporary educational controversies and explore their implications for curriculum decision-making. Students will examine current issues and problems. In this course students will have an opportunity to dig deeply into a concept that is of interest to them and develop materials to implement in their own classroom or place of work.

Information and Admission Procedures

Applications for this program will be accepted until March 31, 2023.

The application information can be found at https://www.mystfx.ca/masters-of-education/applications-and-forms