

MTHED 276 Fall 2025

197 TMCB MF 2:00 pm – 2:50 pm

Classroom Observations T 7:00 am – 10:50 am

Instructor: Professor Sharon Christensen

Office Location: A180R ESC

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Office Hours: TH 8:00 am -9:00 am, F 3:00-4:00, or by appointment

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Prerequisites

MTHED 177 & MATH 213 & MATH 290; or MTHED 177 & MATH 290 & MATH 313

Required Texts

NCTM Principles to Actions (ISBN: 9780873537742)

NCTM Membership (required):

NCTM provides a student e-membership free to MEA members, which will allow access to the *Professional Standards for Teaching Mathematics* and *Principles and Standards for School Mathematics*—two texts that we will use in this course—as well as additional articles, lesson ideas, and other resources for mathematics teachers.

Teaching in the Savior's Way- Can buy a paper copy of this or use the free digital copy found in your Gospel Library App under the Books and Lessons.

Course Description

This course, along with Math Ed 177, Math Ed 277, and Math Ed 278 is designed to give prospective secondary teachers an opportunity to reflect on their own beliefs about mathematics, as well as their beliefs about teaching mathematics.

I believe that mathematics classrooms should provide all students with opportunities to explore and think critically and deeply about mathematics. Through this process students develop understanding of and make connections in mathematics that are useful both in and outside of the classroom. One way to explore these concepts is to consider these questions: “How do we best learn mathematics so it can be understood, extended and applied?” and “How do we best teach mathematics for understanding?”

You will gain insight into these questions as you examine your own beliefs about mathematics education through reflecting on current recommendations and research. Additional insight will come from observing secondary students engaging in mathematical tasks in their own classroom settings and observing how teachers orchestrate classroom discourse to elicit mathematical thought.

Demands for improvement in education in general, and mathematics education specifically, has led organizations such as NCTM (The National Council of Teachers of Mathematics) and INTASC (the Interstate New Teacher Assessment and Support Consortium) to establish principles and standards for improving curriculum and enhancing teaching pedagogy.

The activities we engage in during class time are expected to provide opportunities for you to meet the following learning outcomes:

Learning Outcomes for MTHED 276

- **Mathematical Practices.** Students understand authentic mathematical practices and use them to engage in meaningful mathematical exploration and reflect on their own use of these practices to make inferences about how adolescents might engage in mathematical tasks.
- **Philosophy of Teaching and Learning Mathematics.** Students articulate a philosophy of teaching and learning mathematics based on the professional standards for teaching mathematics, the moral dimensions of teachings, and the INTASC standards.
- **Aligning Curriculum and Instructional Goals.** Students can use curriculum guides such as the NCTM content standards or the Common Core State Standards to trace the K-12 development of a select central concept of mathematics as a means for planning instruction appropriate to a particular grade level and topic.
- **Analyzing Classroom Instruction.** Students can analyze and describe the mathematical experiences of adolescents in terms of the tasks, discourse and learning environments they observe in public school classrooms and can reconcile the theoretical principles of their university experience with the reality of a secondary classroom.
- **The Equity Principle.** Students identify a range of positions that are available to adolescents in particular mathematics classrooms. Students understand what it means to believe that "all adolescents can learn mathematics."

Grading Scale

Your final grades for the course will be given as follows:

A	94.0% to 100%	B	84.0% to 86.9%	C	74.0% to 77.9%	D	64.0% to 67.9%
A-	90.0% to 93.9%	B-	81.0% to 83.9%	C-	71.0% to 73.9%	D-	60.0% to 63.9%
B+	87.0% to 89.9%	C+	78.0% to 80.9%	D+	68.0% to 70.9%	E	below 60%

Graded Components

Classroom Observation Reflections (25%)

You will submit a reflection paper for each classroom observation visit.

Journal Reflections (15%)

You will record your responses to questions about the readings and your personal reflections from your weekly observations.

Conceptual Mathematics Explanations (20%)

You will have the opportunity to solve several math problems. You will write a paper that explains how you thought about the problem, how you solved the problem, what mathematical connections you made and your justification for your solution.

Assignments (20%)

You have two papers you will write, a “Math Autobiography” paper and a “Student Identities” paper along with a project of your choosing entitled “Becoming a Teacher”. Details can be found on the individual assignments on Learning Suite.

Mathematics Education Association (MEA) (2%)

In order to receive MEA credit during the winter semester, students will need to participate in two MEA activities. Teachers interact with their colleagues in ways that contribute to the school environment as well as their chosen field. Participating in these activities will help you begin to experience that collegiality.

Final Exam (18%)

You will have a final exam that will cover material you have read and material that we will discuss in class.

Attendance and Preparation: Because we will be developing a community of learners in which ideas will be shared and examined, daily attendance is expected. Class exploration and discussion will be an integral part of our work, and everyone is encouraged to participate. Prompt class attendance and completion of assigned readings is crucial. So also, is a willingness to ask questions about the mathematics and pedagogy you are learning, sharing your thoughts and observations, and seeking to understand the thinking of others. It is important that we create an atmosphere where the sharing of ideas is valued, and we feel safe when expressing a lack of understanding or making mistakes. Examining mistakes and misunderstandings are all part of the learning process and are an integral part of our growth.

You should plan to attend in person except in the case of illness. The attendance policy allows for up to three absences with no penalty (**if you miss an observation you will need to make up the observation**), so please be judicious with nonessential absences (e.g., family vacations). Each absence after the three will result in a 1% grade drop. Please communicate any absences ahead of time where possible, especially with your observation group.

Observation Sites and Field Experiences: Remember that we are guests in the classrooms we observe, so try to be as unobtrusive as possible. We expect a high level of professionalism as you visit the schools, including arriving before class starts and being dressed appropriately. District policies require that visitors check-in at the office before attending class. Remember that you are not *evaluating* the lesson or the teacher, rather you are *observing* for insights into teaching and learning. Seek permission in advance if you wish to observe students more closely when they are working individually or in small groups. Teachers appreciate being acknowledged for their hard work; therefore, before leaving the classroom you might consider commenting on something that interested or surprised you or ask a question to clarify something you are wondering about. You will have specific things to observe for during each classroom visit. You should take appropriate field notes during the observation time and wait until you are outside of the classroom to discuss and analyze your notes with the members of your observation group.

Late Assignments: All assignments are due on the date and time posted on BYU Learning Suite. Late assignments will have a 10% deduction from the grade for each class period they are late.

University Policies

Honor Code: In keeping with the principles of the BYU Honor Code, students are expected to be honest in all of their academic work. Academic honesty means, most fundamentally, that any work you present as your own must in fact be your own work and not that of another. Violations of this principle may result in a failing grade in the course and additional disciplinary action by the university. Students are also expected to adhere to the Dress and Grooming Standards. Adherence demonstrates respect for yourself and others and ensures an effective learning and working environment. It is the university's expectation, and my own expectation in class, that each student will abide by all Honor Code standards. Please call the Honor Code Office at 422-2847 if you have questions about those standards.

Preventing & Responding to Sexual Misconduct

In accordance with Title IX of the Education Amendments of 1972, Brigham Young University prohibits unlawful sex discrimination against any participant in its education programs or activities. The university also prohibits sexual harassment-including sexual violence-committed by or against students, university employees, and visitors to campus. As outlined in university policy, sexual harassment, dating violence, domestic violence, sexual assault, and stalking are considered forms of "Sexual Misconduct" prohibited by the university.

University policy requires all university employees in a teaching, managerial, or supervisory role to report all incidents of Sexual Misconduct that come to their attention in any way, including but not limited to face-to-face conversations, a written class assignment or paper, class discussion, email, text, or social media post. Incidents of Sexual Misconduct should be reported to the Title IX Coordinator at t9coordinator@byu.edu or (801) 422-8692. Reports may also be submitted through EthicsPoint at <https://titleix.byu.edu/report> or 1-888-238-1062 (24-hours a day).

BYU offers confidential resources for those affected by Sexual Misconduct, including the university's Victim Advocate, as well as a number of non-confidential resources and services that may be helpful. Additional information about Title IX, the university's Sexual Misconduct Policy, reporting requirements, and resources can be found at <http://titleix.byu.edu> or by contacting the university's Title IX Coordinator.

Student Disability

Brigham Young University is committed to providing a working and learning atmosphere that reasonably accommodates qualified persons with disabilities. If you have any disability which may impair your ability to complete this course successfully, please contact the University Accessibility Center (UAC), 2170 WSC or 422-2767. Reasonable academic accommodations are reviewed for all students who have qualified, documented disabilities. The UAC can also assess students for learning, attention, and emotional concerns. Services are coordinated with the student and instructor by the UAC. If you need assistance or if you feel you have been unlawfully discriminated against on the basis of disability, you may seek resolution through established grievance policy and procedures by contacting the Equal Employment Office at 422-5895, D-285 ASB.

THE STATEMENT ON BELONGING

We are united by our common primary identity as children of God (Acts 17:29; Psalm 82:6) and our commitment to the truths of the restored gospel of Jesus Christ (BYU Mission Statement). We strive to create a community of belonging composed of students, faculty, and staff whose hearts are knit together in love (Mosiah 18:21) where:

- *All relationships reflect devout love of God and a loving, genuine concern for the welfare of our neighbor (BYU Mission Statement);*
- *We value and embrace the variety of individual characteristics, life experiences and circumstances, perspectives, talents, and gifts of each member of the community and the richness and strength they bring to our community (1 Corinthians 12:12–27);*
- *Our interactions create and support an environment of belonging (Ephesians 2:19); and*
- *The full realization of each student's divine potential is our central focus (BYU Mission Statement).*