**Math Ed 476R—Secondary Mathematics Student-Teaching**
**Fall 2025**

## Course Philosophy

Learning to teach mathematics is a process that requires more than simply learning how to survive in a classroom. Learning to teach mathematics requires gaining experience in thinking about important mathematical ideas and planning the learning activities that will best help students come to understand those ideas. It is through reflection on these experiences that you will create a pedagogical foundation on which you can base the life-long learning process known as teaching mathematics.

## Course Objectives

This student teaching experience has been designed to help you gain experience and knowledge about the following areas:

1. Students' mathematical thinking and understanding
2. Designing and teaching mathematics lessons that engage students in exploring and coming to understand important mathematical ideas
3. The overall expectations of a public-school teacher

## Course Expectations

You will earn either Credit or No-Credit for this course. Whether you earn credit will be determined by the university supervisor with considerable consultation with your cooperating teacher as well as demonstrating competency in all areas of the BYU Professional Teacher Candidate Rubric (TCA), and a passing score on the EDA (80% or higher). Although you will be asked to complete a number of assignments for this course, the feedback on these assignments will be formative rather than summative (i.e., comments rather than points). The quality and consistency of your work will be a large factor in determining your overall level of professionalism and competence and will thus play a large role in determining whether you pass the course as well as the recommendations from your cooperating teacher and university supervisor.

Your attendance in your student teaching is also important. BYU policy states "At BYU, student teaching is a capstone experience that places full-time BYU students as teachers in classrooms and requires the same commitment and accountability to K-12 learners as fully-employed teachers. Therefore, student teachers are required to keep contracted teacher days and hours from the beginning to the end of the BYU semester. Absences must be approved in advance and may result in additional time added to the experience. Students are also expected to do extracurricular activities as appropriate for the content area and must meet all required stated competencies as measured by BYU assessments." If you are sick make sure you let your co-operating teacher as well as your university supervisor know.

## Writing to Learn

A writing component accompanies most of the learning-to-teach activities of student teaching. Some wonder why there would be so much writing in a course about learning to teach mathematics, sharing protestations such as, "This is about mathematics, not English" or "I chose to go into mathematics to get away from writing". Because you may have had thoughts along these lines, below are three primary reasons why writing is so prominent in this experience:

1. **Teachers are communicators,** and mathematics teachers are communicators of mathematics. You will develop the facility to communicate about mathematics, its learning and teaching as you write about your learning-to-teach experiences. This ability to communicate will be an invaluable asset as you teach and as you reflect on that teaching.

2. **We build knowledge by sharing it.** The writing process will require you to seek not only for connections among the various concepts you are learning, but also for ways to articulate those connections. In turn, efforts to synthesize and organize your ideas will lead you to explore yet deeper and broader connections. This recursive process is the essence of learning to teach.
3. **Writing is a lens on understanding.** Throughout your career as a teacher, those you work with (students, parents, colleagues and administrators) will judge your competence, at least in part, on the quality of your writing. They will take what you write as evidence of what you know and how you know it. The same is true during your student teaching experience. You should interpret all writing assignments as an opportunity to make a case for your own understanding.

**Learning-to-Teach Activities**
You will be involved in the following learning-to-teach activities during the student teaching experience. A majority of the assignments associated with these activities will be done during the first half of the field experience.

During the first five weeks of your student teaching experience, you will spend a considerable amount of time planning lessons, observing others teach and reflecting on those lessons.

**Daily Journal:** Daily journals (weeks 1-2) are brief writing assignments wherein you write about the social and socio-mathematical norms you see in the classroom, note mathematical and pedagogical conversations you have with your cooperating teacher and reflect on interesting student mathematical thinking that you observe. At the end of each week, you will submit the collection of journal entries on Learning Suite. **Your entries will be of most value if you can use them as a constant reminder to keep your eyes and ears open for insights into students' mathematical thinking and teachers' effective mathematical pedagogical practice**.
At the end of the first two weeks, you will no longer fill out the daily journal, but you are asked to look for student's mathematical thinking that you didn't anticipate or that was a different way of conceptualizing a math idea. Continue to discuss these with your peer student teacher as well as your mentor teacher.

**Getting to Know your students:** There are many factors and resources that can influence and support student learning. Some of these include but are not limited to; knowledge of individual students, instructional resources that are available, and norms in the classroom as well as norms you create with your students. During the first two weeks, work with your mentor teacher to make a list of resources that are available in your classroom and your school, send an email home to the parents/guardians letting them know who you are and that you will be student teaching in their child's math class, and for each class that you teach do some sort of getting to know you activity (if you do a survey make sure to approve it with your mentor teacher). You will write a 2–3-page paper about the resources available and about what you learned about your students. Summarize what resources are available, and one or two things that you learned that is common to the students in each class and one thing about a specific student in each class that you are teaching. Identify and describe two implications for teaching, one based on the resources available and one about your knowledge of your students. As part of this paper, include the email you sent home to parents and describe anything you learned from this email.

**Observation Record:** Observation records are detailed notes on some particular aspect (see below) of a mathematics lesson. Although you will observe many classes throughout the week, you will choose two lessons each week (during weeks 1, 2 and 4) for these observations records—one lesson taught by your cooperating teacher and one taught by another teacher in your school or in your cluster school(s).

The two observations records for a given week, along with a brief (1-2 page) synthesis of the observations and implications for your own teaching, are due on the Saturday of that week.

Week 1: Classroom discourse
Week 2: Student's Classroom Experience
Week 4: Teachable Moments

**Lesson Plans:** Each week that you are observed by your university supervisor you need to send your lesson plan to your university supervisor. The lesson plan needs to be submitted at least the night before you teach your lesson. You may use any form you choose for your lesson plan, but the lesson plan needs to include the following:

- FMC & Learning Goals
- Your Task
- Description of your launch, explore and discussion
- Anticipated student thinking with possible assessing and advancing questions

**Teach/Observe/Reflect:** During weeks 2-5, and again in week 14, you will spend a considerable amount of time teaching or observing your peer student teachers teach and then participating in a reflection meeting following the lessons. When it is your turn to be the host school, you and your peer student teacher will be teaching two periods of the same course. You will plan your lesson together, using the lesson plan template of your choice, then teach your classes individually. **Seek feedback from your cooperating teacher and university supervisor as you prepare these lessons.** On the day you teach bring sufficient copies of your lesson plan to distribute to the observers.

Those who observe the lesson should take notes on their copy of the lesson plan. As an observer, use your copy of the lesson plan to take notes on how students respond to the lesson. You should focus on more than what students say—focus also on what they do, how they react, and what they write. Try to get a feel for how the students are experiencing the mathematics that day. In order to give the best feedback possible to your peers, think of yourself as providing a "fresh set of eyes" on how students participate in the lesson. Avoid focusing too much on the presentation of the lesson, except where it ties directly to student thinking.

A reflection meeting will follow each of these teaching/observing activities. The reflection meeting will begin with the peer student teacher sharing mathematics that they observed students doing, and the teachers stating their goals and rationales for the lesson. They should be prepared to respond to questions such as, "Why did you use those particular questions and tasks?" and "Did students respond as you anticipated?" Peer observers will then be given the opportunity to ask clarifying questions about the planned lesson and to share their observations of student thinking and how that thinking related to the goals of the lesson. The reflection conversation should constantly be driven by reference to these goals. After this discussion has concluded, the university supervisor and cooperating teacher will lead discussions on general pedagogical principles that relate to the foregoing lessons and reflections.

**Video Reflections:** Weeks 3 & 4 you will video tape the lesson that you teach for your cluster group reflection. You will upload the video on Learning Suite and watch for instances in your video that demonstrate student thinking or questions you pose during your lesson.
Week 3: One of the peer student teachers will video tape their lesson. Both student teachers will watch the video individually, look for how student thinking is used during the lesson, then together, look at the instances of student thinking that you both identified. Write a 1-2 paragraph summary about what

you noticed and specific goals you have for the next lesson you will teach. Submit your write up on Learning Suite by Saturday of week 3.
Week 4: The other student teacher will video tape their lesson. Both student teachers will watch the video individually, look for different types of questions that were posed during the lesson and who responded to the questions, then together, discuss the types of questions that you identified and how the students responded to the questions. Write a 1-2 paragraph summary about what you noticed and specific goals you have for the next lesson you will teach. Submit your write up on Learning Suite by Saturday of week 4.

**Student Interview:** Two times during weeks 3 and 5, we would like you to sit down with a student and interview them about their responses to a recent test, quiz or homework assignment. This will give you an opportunity to get to know the student and to gain insight into areas where they appear to understand the mathematics as well as areas where they lack understanding. Before the interview observe this student in the classroom. Make note of what they do and say and try to imagine what that student is experiencing during each part of the class. Try to "capture" the students mathematical experience. Next interview the student and audio record the interview. Begin the interview by asking the student to explain their reasoning on various problems. Your goal is to get them to talk about their thinking, so avoid teaching them at this point. As you listen to the student explain their reasoning, feel free to pose questions or related tasks that you believe will give you further insights into their understanding. After you have conducted the interview, you are welcome to provide the student with any help you deem necessary based on your interview.

Your assignment for this activity is to write a 2-3 page paper wherein you characterize the student's mathematical experience in the classroom and their mathematical understanding and lack of understanding. Following this characterization, discuss what you believe this student needs (mathematical tasks, experiences, etc.) in order to increase their understanding. In other words, where should their learning go from here? Submit each of these papers by Saturday of weeks 3 and 5 on Learning Suite.

**Weekly Assignments** (due on Saturday by 11:59 pm each week)

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| **Week 1** | **1)** Daily Journal **2)** paper on "Classroom Discourse" observations **3)** Send email to parents |
| **Week 2** | **1)** Daily Journal **2)** paper on "Student's Classroom Experience" observations **3)** "Getting to know your students" paper. |
| **Week 3** | **1) S**tudent interview paper **2)** Cluster student teachers' lessons observations **3)** Video Coding and 1-2 paragraph reflection **4)** Lesson plan |
| **Week 4** | **1)** Cluster student teachers' lessons observations **2)** paper on "Teachable Moments" observations **3)** Video Coding and 1-2 paragraph reflection **4)** Lesson plan |
| **Week 5** | **1)** Cluster student teachers' lessons observations **2)** Student interview 3**)** Lesson plan |
| **Week 6 – 13** | Take over the teaching of the classes assigned to you, send a lesson plan to your university supervisor each week for the lesson that will be observed by your university supervisor |
| **Week 14** | **1)** Gradually turn your classes back to your mentor teacher, **2)** Cluster student teachers' lessons observations—reflect on the lessons using the digital dialogue prompt |

## 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 every instructor's 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).*