Mayville State University

EDUC 483: Secondary Methods for Mathematics (28992)

Fall 2025
3 Credit Hours

Course and Instructor Information

Instructor Name: Taylor Simon

Contact Information:

Office: Classroom Building Room 107 (enter through room 108 lobby door)

Email: taylor.simon@mayvillestate.edu

Work phone: 701-788-4726

Hours of Availability:

Monday 8:00 – 9:50am, Wednesday 11:00 – 11:50am

Available for meetings on other days/times by appointment.

Instructional Mode: On-campus face-to-face

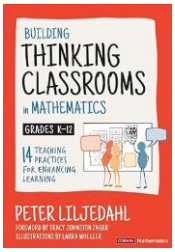
Course Dates: August 25 – December 19, 2025

Meeting Times and/or Location: Tues & Thurs 1:30pm – 3:30pm. Science Room 117A (by education offices)

Zoom Link: https://mayvillestate.zoom.us/j/84235859327?pwd=OEe9azzUqauGBNUWx6a9CqMOVA82aE.1

Course Materials and Technologies

Required



- MSU Technology Requirements
- **Book:** Liljedahl, P. (2020). *Building thinking classrooms in mathematics, grades K–12: 14 teaching practices for enhancing learning*. Corwin. ISBN 9781544374833
- Computer with access to internet.

Use of Artificial Intelligence in this Course

AI tools may be used in this course if their purpose is to support your learning. The goal is always your own understanding, not just getting an answer. If you choose to use AI, treat its output as a starting point or building block—not a final product. Always aim to understand, question, and build upon what AI provides so that your own mathematical thinking and teaching skills continue to grow.

Course Description

This course is designed to provide teacher candidates majoring in secondary math education study in discipline structures, key concepts, methodology and examination of professional standards and expectations for secondary education. Teacher candidates design and implement lessons that support student learning in a college and career ready classroom inclusive of research-based best practices. Teacher candidates will create a content-specific instructional unit and a philosophy of math education paper that demonstrate knowledge and skill sets necessary for today's secondary math education teacher.

Pre-/Co-requisites: EDUC 480 and Admission to Teacher Education.

Course Objectives

To successfully complete this course, the learner will be expected to meet the following objectives, as aligned to Mathematics Education Program Approval Standards through North Dakota's Education Standards and Practices Board (ND ESPB):

1. Students will study and apply teaching strategies for middle school and high school mathematics. **(INTASC 1,4,5,8)**
2. Students will gain experience teaching mathematics in a cooperative and activity-based way to their peers, which includes writing lesson plans with written practice problems. **(INTASC 1,3,4)**
3. Students will practice problems covered by the Praxis II test and PLT test. **(INTASC 7)**
4. Students will write lesson plans and assessments for teaching in class and the field. **(INTASC 1,2,3,4,6,7)** As part of this activity, students will be videotaped to gain feedback from their peers and for self-reflection.
5. Students will write classroom rules and a grading scheme for their future classrooms.
6. Students will investigate a teaching topic of interest and give a presentation of their findings to the class. **(INTASC 9)**
7. Students will expand on their Philosophy of Education paper (from Educ 480 General Methods) by writing a 3–4 page Philosophy of Mathematics Education, providing a deeper exploration of their personal beliefs about teaching mathematics.
8. Students will engage in a structured field experience. Placements will be made during the first 8 weeks of the course. The classroom observations will occur during the second 8 weeks.

Standards Alignment (Mathematics Education Program Approval Standards-ND ESPB):

- 11010.2 Mathematical Connections - The program requires the teacher candidate to demonstrate the interconnectedness of mathematical ideas and how they build on one another. The candidate recognizes and applies connections among mathematical ideas and across various content areas as well as real-world contexts, using the language of mathematics to express ideas precisely, both orally and in writing to multiple audiences
- 11010.7 Content Pedagogy - The program requires that the teacher candidate is able to successfully implement a variety of instructional strategies. The candidate demonstrates the following: a) Applies knowledge of curriculum standards for secondary mathematics and their relationship to student learning within and across mathematical domains, b) Analyzes and considers research in planning for and leading students in rich mathematical learning experiences, c) Plans lessons and units that incorporate a variety of strategies and mathematics specific instructional tools to promote conceptual understanding and procedural proficiency, d) Provides students with opportunities to communicate about mathematics and make connections among mathematics, other content areas, everyday life, and the workplace, e) Implements techniques related to student engagement and communication including selecting high quality tasks, guiding mathematical discussions, identifying key mathematical ideas, identifying and addressing student misconceptions, and employing a range of questioning strategies.

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Course Expectations

Instructor/Student Communication

Students are accountable for all academic communications sent to their Mayville State University email address. You should check your university email at least once a day. You are also responsible for frequently logging into blackboard and attending office hours if needed.

Assignments and Assessments

Reading Responses: Each week, there will be assigned readings from the book Building Thinking Classrooms. Students will complete reading responses to reflect on what they read.

Presentations and Lesson Plans: Students will investigate a teaching topic and present it to the class. Students will prepare and teach 4 lessons in class before doing their field experience, one of which students will record. The full MSU lesson plan will be completed for one lesson taught in class. Students will teach at least two back-to-back lessons during their field experience, one of which students will record. The full MSU lesson plan will be completed for one lesson taught during the field experience.

Papers: Students will write a math history paper and a philosophy of math education paper.

Scenarios: Students will reflect on and discuss multiple teaching scenarios.

Other Assignments: Students will decorate a bulletin board. Students will build a curriculum map. Students will make their own classroom rules and grading scheme. Other work may be assigned.

Evaluation and Grading

Grading Policies

Late work will be deducted points.

Attendance/Participation Policies

Regular attendance and participation are expected. This includes asking and answering questions, working on in-class activities and assignments, etc. Read the book. Take meaningful notes. If illness or other circumstances prevent you from attending class, contact me **prior** to your absence. It is your responsibility to ask for work missed during an absence. You are responsible for keeping up with work assigned whether you attended class or not. Work is due on the due date even if you are absent. **If you miss class without notice, you have 2 weekdays to arrange make-up work. After that, missed work will receive a zero.**

Grading Scale

A	85 – 100 %
B	70 – 84.9 %
C	50 – 69.9 %
D	35 – 49.9 %
F	0 – 34.9 %

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Breakdown of Grades

This class uses a total points grading system. Your final grade is calculated by dividing the total points earned throughout the semester by the total points available from assignments and assessments.

Course Timeline/Schedule

Due dates will be discussed in class.

Instructions for Scanning Work

When scanning your work, **make sure that multiple pages are scanned into a single PDF document**.

Option 1: Use a scanner. Email the scan to yourself. Download your scan. Submit your scanned document in Blackboard.

Option 2: Download the app "CamScanner" to scan your documents. After scanning all your pages in **one** document, select the document and select "share." Then choose "Share PDF." Share to your email. Open the email on your computer and download the PDF to your computer. Submit this **single PDF** in Blackboard. The app is free to use unless you decide to make in-app purchases.

Option 3: If you have an iPhone, iPad, or Android, you can use your device to scan documents! This is different from hitting the camera button and taking a picture.

iPhone/iPad Instructions

a. Open a note or create a new note .
b. Tap , then tap "Scan Documents."
c. Place your document in view of the camera on your device.
d. If your device is in Auto mode, your document will be automatically scanned. If you need to manually capture a scan, tap or one of the Volume buttons.
e. Drag the corners to adjust the scan to fit the page, then tap "Keep Scan."
f. You can add additional scans to the document or tap "Save" when you are done.
g. Tap the arrow next to scanned documents for a drop-down menu. Scanned Documents
h. Select "Share" and email the scan to yourself.
i. Open the email on your computer and download the .pdf file. Submit to Blackboard.

Android Instructions

a. Open Google Drive app .
b. In the bottom right corner, tap "Add" New,
c. Tap "Scan" or "Use Camera" .
d. Take a photo of the document you would like to scan.
   i. Adjust scan area: Tap "Crop" .
   ii. Take photo again: Tap "Re-scan current page" .
   iii. Scan another page: Tap "Add" .
e. To save the finished document, tap "Done"
f. Open the file in Google Drive and download it to your computer. Submit to Blackboard.

Enrollment Verification

The U.S. Department of Education requires instructors to conduct an activity which will validate student enrollment in this course. Class attendance will be used to verify enrollment in on-campus courses. If you do not attend, your enrollment in this course will be at risk.

Important Student Information

In the Announcements section of the Blackboard Institution Page, you can view and download the Important Student Information document for the current academic year. It includes information about:

- ✓ Land Acknowledgement Statement
- ✓ Academic Grievance Concerns and Instructor English Proficiency
- ✓ NetTutor - Online Tutoring Program
- ✓ Starfish - Student Success System
- ✓ Students with Documented Disabilities
- ✓ Student Learning Outcomes / Essential Learning Outcomes
- ✓ Academic Honesty
- ✓ Emergency Notification
- ✓ Continuity of Academic Instruction for a Pandemic or Emergency
- ✓ Family Educational Rights and Privacy Act of 1974 (FERPA)
- ✓ Diversity Statement (Title IX)

This syllabus serves as a general guide for the course. The contents are subject to change at the instructor's discretion. Students will be notified of any modifications through class announcements/email.