

EDEE 3350.026: Teaching Mathematics in Grades EC-6	
Instructor: Heather Steen	Preferred Name and Pronouns: Professor Steen/Ms. Steen/Heather; she/her/hers
Office location: Matthews Hall 206	Office hours: Before and after class and by appointment/email/Zoom
Contact info: Heather.Steen@unt.edu ; please allow 24 hours for email responses during workdays.	Class Meetings: Matthews Hall 115 1:00-3:50 pm every Tuesday beginning August 20 – December 13, 2024

CATALOG DESCRIPTION

This in person course is designed to prepare preservice teachers to teach mathematics to diverse student populations in EC-6 grade classrooms. Students will become familiar with the national and state standards in mathematics that outline the mathematics that students should learn across grade levels and the mathematical processes they should be engaged in while learning them. Most importantly, students in this course will learn methods of teaching mathematics that are equity and asset-based, rigorous, foster children's positive mathematics identity development, and transform math classrooms into spaces that challenge marginality and use mathematics as a tool to critically examine the world.

PREREQUISITES

Corequisite(s): EDCI 4010; EDSP 4350; EDRE 4850; EDRE 4860

Must be admitted to teacher education program: Must be taken in Block B; Requires field hours at an offsite location.

COURSE GOALS

This course is designed to help you transition from being a learner of mathematics to a teacher of mathematics.

In this course we will explore three themes: What mathematics? For whom? For what purpose? (Aguirre, Mayfield-Ingram, & Martin, 2013):

1. What mathematics?
 - What mathematics concepts are children expected to learn in school and when? How can we teach these concepts in ways that are relevant to students' lives?
 - What mathematical understandings do children bring to the classroom and how can we leverage those in our mathematics instruction?
 - What mathematics standards and resources can teachers draw from when developing and implementing mathematics lessons?

- What teaching practices can we use to promote equitable and rigorous mathematics teaching and learning?
2. For Whom?
- Who is a mathematician? What popular myths and stereotypes are associated with who is or isn't mathematically competent?
 - How are our mathematics identities shaped by our mathematics learning experiences, and how does that consequently impact our teaching of mathematics?
 - How do we center the experiences, identities, and mathematical understandings of ALL students especially those from traditionally marginalized groups in mathematics?
 - How do we teach mathematics to students from diverse cultural, racial, social, and linguistic backgrounds?
 - How do we partner with parents and communities in our mathematics teaching and learning?
3. For What Purposes?
- Why is mathematical literacy important? How can we explore the beauty and power of mathematics with our students?
 - What is the role of assessment and how can we learn to assess students effectively?
 - In what ways has mathematics been used to oppress groups of students and how can we promote humanizing mathematics instruction?
 - How can we provide opportunities for our students to engage with mathematics in ways that allow them to critically examine their world and confront social injustices?

This course is not designed to turn you into an expert mathematics teacher. Instead, it aims to help you become a *well-started novice*: a prospective teacher who has thought hard about some of the central questions in mathematics learning and teaching, who has ideas about these questions that they can defend articulately using applicable research, who knows about reformed-based mathematics teaching and resources available to teachers, and who has the tools needed to become an advocate of and agent for equitable and justice-oriented mathematics education.

COURSE TEXTS

Required:

Aguirre, J., Mayfield-Ingram, K., & Martin, D. (2013). *The impact of identity in K-8 mathematics: Rethinking equity-based practices*. The National Council of Teachers of Mathematics. (ebook available through the UNT Library for free)

Recommended:

Carpenter, T., Fennema, E., Franke, M. L., Levi, L., & Empson, S. B. (2015). *Children's mathematics: Cognitively Guided Instruction*. Portsmouth, NH: Heinemann. 2nd Edition

van de Walle, J., Karp, K., & Bay-Williams, J. (2019). *Elementary and Middle School Mathematics: Teaching Developmentally* (10th ed.). Boston: Pearson Education, Inc.

Yeh, C., Ellis, M. & Koehn Hurtado, C. (2017). *Reimagining the mathematics classroom: Creating and sustaining productive learning environments*. The National Council of Teachers of Mathematics. (ebook available through the UNT Library)

National Council of Teachers of Mathematics – Student e-Membership

(<http://www.nctm.org/Membership/Membership-Options-for-Individuals/>)

- Sign up for student membership (\$49)
- Membership includes complimentary registration to regional meetings, e-access to all journals and learning resources, and 30% discount on purchases through the web site.

Electronic Resources:

[Library in Teacher Education & Administration](#)

National Council of Teachers of Mathematics: www.nctm.org

TEKS: <https://tea.texas.gov/about-tea/laws-and-rules/texas-administrative-code/texas-administrative-code-title-19-part-2>

Common Core Math Standards:

<https://learning.ccsso.org/common-core-state-standards-initiative>

Course Canvas Page: <https://unt.instructure.com>

Educator Standards this Course Addresses:

[TEA Educator Standards](#)

[English as a Second Language](#)

[ELPS](#)

[Technology Applications Standards](#)

[Texas Prekindergarten Guidelines](#)

COURSE ASSIGNMENTS

Below is a description of the course assignments. Refer to the Canvas course for deadlines of course assignments.

Weekly Participation:

To be effectively engaged in this class, the teacher candidate will:

- *Be prepared by reading and reflecting on assigned material each week.*
- *Show involvement in class through participation in class discussions.*
- *Lead a reading discussion or engage activity at least once during the semester*
- *Demonstrate purposeful engagement with activities during class time.*

Every week you will be evaluated on your participation and engagement with our class activities and discussion of course readings. Here is a brief description of the major assignments in this course. Full descriptions can be accessed on our class Canvas page.

MAJOR ASSIGNMENTS	
<i>Math Autobiography and Interview</i>	You will present your math autobiography that details your experience learning mathematics as a child. You will also present the math story of a “significant person” in your life (e.g., parent, grandparent, sibling, best friend, partner) after conducting an audio or video interview with that person. Finally, you will compare your experiences with that of your “significant person”.
<i>Case Study Project</i>	In this project, you will learn more about one individual in your class, their home and community experiences, and how those might relate to mathematics learning. It is also an opportunity to practice eliciting, interpreting, and assessing students’ thinking about mathematics.
<i>Community Walk & Math Lesson Plan</i>	In this multi-component group assignment, you will develop a math lesson plan that incorporates the lived experiences of children in your placement. You will consider modifications that can be made to serve specific groups of students (e.g., emergent bilinguals) and the ways that this lesson can be extended to address a social justice issue relevant to the children in your placement, their families and communities.
<i>Final Reflection</i>	For this assignment you will look back on the development of your understanding of mathematics teaching and learning and your role as a math educator over the course of the semester.

COURSE EVALUATION

Assignment	Percentage	Due Date
Attendance*/Weekly Participation	10%	8/20-12/10
Math Autobiography and Interview	20%	
Math Autobiography & Interview and Reflection		9/3
Case Study Project	20%	
Part I: Getting to Know You Interview		9/17
Part II: Interview Problem		9/17
Part III: Interview & Mock Teacher-Parent Conference		10/8
Community Math Walk & Math Lesson Plan	35%	
Part I: Community Math Walk		10/29
Part II: Draft Lesson Plan		11/5
Final Lesson Plan and Reflection		11/19
Micro-Lesson Presentation		12/3
Final Reflection (online)	15%	12/10

Total	100%	
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**details can be found under "Course Policies"*

A = 90-100% B = 80-89% C = 70-79% D = 60-69% F = 0-59%

Assignment Policies: All grades/points for assignments are final. If you have any questions about grades/points earned for assignments, make an appointment to see me during office hours or send me an email. I will not discuss grades/points during class time.

All deadlines are final but you may submit within a 24 hour window of the deadline twice without asking. All assignments are due on Canvas by 11:59 pm on the due date (e.g., an assignment due on January 30 is due by 11:59 pm on January 30).

All assignments must be submitted in the designated area on our class Canvas page. All written items should include a professional standard of spelling, grammar and punctuation. Cohesion of thought, clarity of expression, depth of reading, analysis of issues and relevance of discussion will need to be evident. Standard requirements for each assignment are 12-point font, double-spacing, appropriate APA referencing style, use of headings and subtitles if necessary and reference lists.

When submitting assignments to Canvas, please be sure to upload word documents unless specifically instructed otherwise. Be sure to name your files using the following convention: *AssignmentName_LastName.FirstName* (e.g., *MathAutobiography_BrownTabitha for the Math Autobiography*). **My general policy is that late work will not be accepted but you may submit within a 24-hour window of the deadline twice without asking.** In the event that you are having continued difficulty meeting assignment deadlines, you should let me know as soon as possible so that we can discuss your options.

The following rubric will be used across all assignments for this course unless otherwise specified.

Module Assignment Grading Guide: Unless grading criteria are specified for the assignment	
A score $\geq 90\%$ Excellent	<i>Exceeds or meets ALL of the following:</i> Submission is completed thoughtfully and with depth. It shows a commitment to learning and to the content of this course. It addresses the assignment requirements but also appears to be personally meaningful and/or relevant. Language/communication is professional and appropriate to the audience. Connections are made to other components of the course (e.g., readings, discussions, assignments).
B 80% \leq score $< 90\%$ Good	<i>Meets most or many of the following:</i> Submission addresses the assignment requirements. Language/communication is professional and appropriate to the

	audience. Connections are made to other components of the course (e.g., readings, discussions, assignments).
C 70% ≤ score < 80% Developing	<i>Meets some of the following:</i> Submission addresses the assignment requirements. Language/communication is professional and appropriate to the audience. Connections are made to other components of the course (e.g., readings, discussions, assignments).
< C < 70% Unsatisfactory	<i>Meets very few or none of the following:</i> Submission addresses the assignment requirements. Language/communication is professional and appropriate to the audience. Connections are made to other components of the course (e.g., readings, discussions, assignments).

COURSE POLICIES

Canvas: Our course Canvas page is the hub where all things related to our course are located. All assignments should also be uploaded there. ***Please do not email assignments to me.*** Email announcements will also be sent from Canvas to your UNT email address so be sure to check your email regularly.

Attendance: This in person course is designed and organized to be highly collaborative and interactive. Our sessions will involve small and whole group activities and discussions. Therefore, your attendance and participation are essential to the learning of everyone in our course. It is very difficult to be enriched by discussions and collaborations if you are not physically present or prepared for class. [University policy 06.039](#) will be followed for attendance problems. If necessary, you may miss one class with a valid excuse (see [university policy for excused absences](#)) and not face penalties related to your grade (thus you are encouraged to save this absence for illness or emergencies that may arise). You must let me know as soon as possible if you will be missing class. It is your responsibility to obtain all notes and handouts missed during your absence. All assignments are due on dates indicated on the syllabus regardless of your absences. A second absence will result in a loss of points from the total grade (see table below). If you miss **four or more classes**, you will receive a failing grade unless agreed upon circumstances between you and the university allow it. Students who miss more than one hour of class will be considered absent from that class meeting. Chronic tardiness or early departure (arriving more than 15 minutes late or leaving more than 15 minutes early) will result in the lowering of a final grade at my discretion. Please note: it is your responsibility to drop this course, if necessary.

# of Absences	Total participation percentage for the class (out of 10 %)
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0 – 1	10
2	7
3	3
4 or more	You will automatically receive an F for your final grade

Course Materials for Class Sessions: It is recommended that you bring a laptop, tablet, and/or notebook to class each session.

Plagiarism and Artificial Intelligence

Generative AI programs often produce text that is plagiarized: it takes words and ideas from sources without attribution. Your credibility as a writer and student relies on both generating your own ideas in your own words and giving attribution (credit) to sources. However, most of the assignments in this class require reflection and original ideas (e.g. lesson plans). See **Academic Integrity Standards and Consequences** (p. 14) regarding UNT policy on plagiarism.

Every student in this class should have the right to learn and engage within an environment of respect and courtesy from others. We will discuss our classroom's habits of engagement and I also encourage you to review UNT's student code of conduct so that we can all start with the same baseline civility understanding ([Code of Student Conduct](https://policy.unt.edu/policy/07-012)) (<https://policy.unt.edu/policy/07-012>).

Educator Standards Addressed in this Course

The UNT Educator Preparation Program curriculum includes alignment to standards identified by the Texas State Board of Educator Certification (SBEC) for beginning educators. These standards are addressed throughout your preparation and assessed through the TExES Certification exams required for your teaching certificate. Additionally, the Commissioner of TEA has adopted these rules pertaining to Texas teaching standards:

Texas Teaching Standards:

Standards required for all Texas beginning teachers fall into the following 6 broad categories:

Standard 1--Instructional Planning and Delivery. Standard 1Ai,ii,iv; 1Bi,ii (Lesson design)

Standard 2--Knowledge of Students and Student Learning.

Standard 3--Content Knowledge and Expertise.

Standard 4--Learning Environment.

Standard 5--Data-Driven Practice.

Standard 6--Professional Practices and Responsibilities.

Standards, Domains, and Competencies for the EC-6 CORE SUBJECTS-Math

Competency 001: (Mathematics Instruction) The teacher understands how students learn mathematical skills and uses that knowledge to plan, organize and implement instruction and assess learning. (1A-1N)

Competency 002: (Number Concepts and Operations): The teacher understands concepts related to numbers, operations and algorithms and the properties of numbers. (2F, 2J)

Competency 006: (Mathematical Processes): The teacher understands mathematical processes and knows how to reason mathematically, solve mathematical problems and make mathematical connections within and outside of mathematics. (6A-6N)

Pedagogy and Professional Responsibilities Standards (EC-Grade 12)

Domain I. Designing Instruction and Assessment to Promote Student Learning

Competency 001: The teacher understands human developmental processes and applies this knowledge to plan instruction and ongoing assessment that motivate students and are responsive to their developmental characteristics and needs. (I.001.A-C, I.001.F, I.001.K, I.001L, I.001P)

Competency 002: The teacher understands student diversity and knows how to plan learning experiences and design assessments that are responsive to differences among students and that promote all students' learning. (I.002.A-F)

Competency 003—The teacher understands procedures for designing effective and coherent instruction and assessment based on appropriate learning goals and objectives. (I.003.A, I.003.E)

Competency 004—The teacher understands learning processes and factors that impact student learning and demonstrates this knowledge by planning effective, engaging instruction and appropriate assessments. (I.004.E, I.004.F, I.004J)

Domain II. Creating a Positive, Productive Classroom Environment

Competency 005: The teacher knows how to establish a classroom climate that fosters learning, equity and excellence and USES this knowledge to create a physical and emotional environment that is safe and productive. (II.005.A, B, II.005.E, II.005.G)

Domain III. Implementing Effective, Responsive Instruction and Assessment

Competency 007: The teacher understands and applies principles and strategies for communicating effectively in varied teaching and learning contexts. (III.007.A, B)

Competency 008: The teacher PROVIDES appropriate instruction that actively ENGAGES students in the learning process. (III.008.C)

Competency 009: The teacher INCORPORATES the effective use of technology to plan, organize, deliver, and evaluate instruction. (III.009.E, F)

Competency 010: The teacher monitors student performance and achievement; PROVIDES students with timely, high-quality feedback; and RESPONDS flexibly to promote learning for all students. (III.010.C)

Domain IV. Fulfilling Professional Roles and Responsibilities

Competency 011: The teacher understands the importance of family involvement in children's education and knows how to interact and communicate effectively with families. (11B, 11D, 11F)

UNT's Standard Syllabus Statements

UNT strives to offer you a high-quality education and a supportive environment, so you learn and grow. As a faculty member, I am committed to helping you be successful as a student. To learn more about campus resources and information on how you can be successful at UNT, go to unt.edu/success and explore unt.edu/wellness. To get all your enrollment and student financial-related questions answered, go to scrappysays.unt.edu.

Academic Integrity Standards and Consequences. According to UNT Policy 06.003, Student Academic Integrity, academic dishonesty occurs when students engage in behaviors including, but not limited to cheating, fabrication, facilitating academic dishonesty, forgery, plagiarism, and sabotage. A finding of academic dishonesty may result in a range of academic penalties or sanctions ranging from admonition to expulsion from the University.

ADA Accommodation Statement. The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking reasonable accommodation must first register with the Office of Disability Access (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with a reasonable accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request reasonable accommodations at any time; however, ODA notices of reasonable accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of reasonable accommodation for every semester and must meet with each faculty member prior to implementation in each class. Students are strongly encouraged to deliver letters of reasonable accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information, refer to the [Office of Disability Access](http://studentaffairs.unt.edu/office-disability-access) website (<https://studentaffairs.unt.edu/office-disability-access>). You may also contact ODA by phone at (940) 565-4323.

Emergency Notification & Procedures. UNT uses a system called Eagle Alert to quickly notify students with critical information in the event of an emergency (i.e., severe weather, campus closing, and

health and public safety emergencies like chemical spills, fires, or violence). In the event of a university closure, please refer to Blackboard for contingency plans for covering course.

This course syllabus is intended to be a guide and may be amended at any time by the instructor.