TNTX 3100.001 Conceptual Algebra

Section 1: Tuesday/Thursday 9:30 AM – 10:50 AM, Curry 323

Instructor Information

Name: Mr. Anthony Hufford, M.Ed (he/him) Mathematics

Office Location: Curry 309E

Phone Number: 940.565.3128

Office Hours: Tuesdays/Thursdays, 2:30pm – 4:00pm

Office hours will be held in TNT Workroom, Curry 316

For outside office hours, set up an appointment.

Email: Anthony.Hufford@unt.edu

Course Description, Structure, and Goals

Course Description, per the University Catalog

This 3-hour credit course provides content and pedagogical knowledge for teaching algebra (and pre-algebra) concepts in grades 4-12 in a way that engages students' mathematical thinking and promotes deeper conceptual understanding. Topics for the development of conceptual learning and teaching may include patterns, relationships, proportional reasoning, linear modeling, polynomials, exponential modeling, quadratic modeling, and systems of equations. This course emphasizes hands-on learning, technology, and critical thinking through demonstration lessons and class discussions.

Course Structure

Our 15-week course will be delivered in-person on **Tuesdays/Thursdays** from **9:30-10:50am** in **Curry 323**. Information about the topics and units for this course can be found in "Course Requirements and Schedule" portion of this syllabus.

In this course, we learn by doing and discussing. The concepts can seem simple to grasp but can sometimes be challenging when put into immediate practice for a preservice teacher. So, I encourage you to take agency over your learning by asking questions, expressing your needs or concerns, and contributing to the discussions. In return, I will provide a tremendous amount of support.

Course Prerequisites or Other Restrictions

TNTX 1200, or TNTX 1300, and EDCI 3500 (may be taken concurrently), and MATH 1650.

Course Goals

By the end of this course, students will be able to:

1. Differentiate between procedural and conceptual learning (and teaching) models, strategies, etc.
2. Connect TEKS statements to inquiry-based activities that develop conceptual understanding.
3. Model various algebraic concepts and connect those models to commonly used procedures.
4. Develop engaging and student-centered lesson components that promote conceptual learning and teaching.

Required Materials

Required texts for ALL students

Boaler, J. (2022). *Mathematical Mindsets: Unleashing students' potential through creative mathematics, inspiring messages, and innovate teaching* (2nd ed.). Jossey-Bass. (ISBN-13: 978-1-119-82306-3)

Optional materials for students

Below are specific items that will be provided by Teach North Texas for in-class exploration. You may also purchase these for your own out-of-class exploration and your future class. A course orientation assignment will be assigned to help you access and purchase these items if desired.

- **1 pack of Wikki Stix**
- **1 individual set of Algebra Tiles**

This course has digital components. To fully participate during class sessions, students will need internet access to reference content on the **Canvas Learning Management System.**

If circumstances change, you will be informed of other technical needs to access course content. Information on how to be successful in a digital learning environment can be found at Learn Anywhere (https://online.unt.edu/learn).

How to Succeed in this Course

Visit with me during Office Hours

Office hours offer you an opportunity to ask for clarification or find support with understanding class material. Meet with me! I encourage you to connect with me throughout the semester. Additional office hours, in-person and virtual, will be offered throughout the semester. Your success is my goal.

Office Hours: Tuesdays and Thursdays, 2:30pm – 4:00pm
Location: TNT Workroom, Curry 316

Appointments are strongly recommended if you need a time outside the hours above. Your time is valuable to me—let's get you on my calendar!

Communicate

You are not alone in this course; I'm here to navigate you to success. Please communicate ALL your concerns or questions to me. It helps me make better decisions on how to support your learning journey. "I can't help what I don't know about."

How can I reach you outside of class? UNT email is the most efficient medium of communication, when we're not face-to-face. You may also message me through Canvas. Canvas forwards all messages to our UNT emails; however, your comments on Canvas will NOT be forwarded. If you have time-sensitive information, please email me. Also, though email is the most efficient, I prefer that we make arrangements to meet whenever possible.

How long does it take you to respond to my emails? You can expect to receive a response to your emails (during the weekdays) within 24 hours. Emails sent over the weekends (i.e. Friday afternoon to Sunday) can expect a response as early as Sunday evening or Monday morning. If your email requires a response and you don't receive one within 48 hours, please don't be afraid to send me a follow-up email. The semester can get pretty busy, and my inbox becomes rather full. A gentle nudge is appreciated. You may use this writing stem:

"Hello (insert recipient's name), I am following up on the email I sent you on (insert date)…"

Use your ADA Accommodations

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 website (http://www.unt.edu/oda). You may also contact ODA by phone at (940) 565-4323.

To begin your registration process, connect with the Office of Disability Access (https://studentaffairs.unt.edu/office-disability-access).

Supporting Your Success and Creating an Inclusive Learning Environment

I value the many perspectives students bring to our campus. Please work with me to create a classroom culture of open communication, mutual respect, and inclusion. It is my goal to create a small learning community of pre-service mathematics teachers through this course, where discussions happen, ideas are exchanged, and peer-to-peer support is given.

All discussions should be respectful and civil. Although disagreements and debates are expected and encouraged, personal attacks are unacceptable. Together, we can ensure a safe and welcoming classroom for all. If you ever feel like this is not the case, please stop by my office and let me know. We are all learning together.

As members of the UNT community, we have all made a commitment to be part of an institution that respects and values the identities of the students and employees with whom we interact. UNT does not tolerate identity-based discrimination, harassment, and retaliation so we will work as a class to collaborate in ways that encourage inclusivity.

Where can I find the UNT policies and procedures for success? You can access these policies in Navigate (Navigate.unt.edu), in Canvas under the Help menu, and on the Student Support Services & Policies page (https://clear.unt.edu/student-support-services-policies).

Please take the time to read and absorb these important policies. Afterwards, please take the UNT Syllabus Quiz (available in Canvas) to access your understanding.

Assessing Your Work

Grading for our course will be based the following numeric grading scale and weighted categories:
A = 90-100%
B = 80-89%
C = 70-79%
D = 60-69%
F = Below 60%

Grading Categories	Percentage of Final Grade
Professionalism • Pre-Assessment participation • Attendance • Class Participation Assignments	*20%*
Homework/Discussions/Readings • Weekly demo reflections • Reading discussions • Minor (<30 min) homework tasks	*30%*
Major Assessments • Midterm Project • Final Project • Checkpoint assignments	*40%*
Exam(s) • Final Exam Essay • Post-Assessment participation	*10%*

Do you accept late work? Yes. Your assignments are due on or before the assignment due date as published in Canvas. After that date, if your assignment is turned in within a week of the published due date, you may receive a maximum of 70%. After one week, no credit will be given.

How long does it take for me to receive feedback? You can expect feedback and grades to be returned within 7 days from the due date. When this is not possible, an announcement will be sent to the class. Feedback will be given in written and oral forms.

Is there any extra credit? No, there is no extra credit available for this course. Each assignment is designed with the success of the student in mind.

Course Requirements and Schedule

As stated before, our course is a Project-Based Learning experience. Every activity, discussion, and assignment will help you complete your project components throughout the semester. Details of our project will be provided during the 1st two weeks of the semester. Below is a general outline of the course.

Week	Topics & Driving Questions	Significant Assignments
1	Course Orientation, Project Launch ○ *How can we, as teachers, empower all students through mathematics?*	• Syllabus Quiz • Pre-Assessment • Course Materials
2-8	Unit 1 – Introduction to Conceptual Learning and Teaching ○ *What does conceptual learning look like?* ○ *What is the ABC Method? Why is it important to conceptual learning and teaching?* ○ *What are the Process TEKS, and how are they chosen for a lesson or activity?* ○ *What is the difference between "procedural" and "conceptual" knowledge?* ○ *What is a misconception?* ○ *What is the significance of each Mathematical Proficiency Strand?* ○ *What are the criteria for technology that supports conceptual learning and teaching?* ○ *What are some "good" technologies for conceptual learning and teaching?*	• Topical Readings • Weekly Demos & Reflections • Midterm Project
9-15	Unit 2 – The Concrete-Pictorial-Abstract (CPA) Approach and Rich Mathematical Tasks ○ *What is the Concrete-Pictorial-Abstract approach?* ○ *What does the Concrete-Pictorial-Abstract approach look like? Not look like?* ○ *How are manipulatives used to enhance student conceptual understanding?* ○ *What are rich mathematical tasks?* ○ *How do we ask questions to guide deep student thinking?* ○ *How do we answer questions to enable deep student thinking?*	• Boaler Readings • Weekly Demos & Reflections • Final Project
16	Finals Week	• Final Exam Essay • Post-Assessment

* The session window of your Mursion session is determined by the availability of the lab.

When is the Final Exam? Please check the UNT Registrar website (https://registrar.unt.edu/exams/final-exam-schedule/index.html). Your instructor will inform you, in advance, if attendance on the designated date is mandatory.

Are the midterm & final project assignments the only assignments I will have to complete for the course? No. You will have weekly demo reflections & regular readings. These smaller assignments are designed to support and enhance your learning.

Where do I submit my assignments? The majority of your assignments will be submitted in Canvas. For transparency and organization reasons, assignments submitted through email will not be accepted for grading.

Are there rubrics available for my assignments? Yes! Grading rubrics can be found on the course Canvas website along with the assignment. I strongly encourage you to use the grading rubrics to guide you to successfully completing your assignments.

How will I know if class is asynchronous or cancelled? You will be sent a Canvas and/or Outlook email notifying you of an asynchronous session or class cancellation. In that message, details of asynchronous assignments will also be provided.

If there is a campus closing that will impact our class, you will be notified by Eagle Alert Emergency Notifications and Procedures Policy (PDF) (https://policy.unt.edu/sites/default/files/06.049_Standard%20Syllabus%20Policy%20Statements_supplement.pdf).

What is the policy for the use of AI (artificial intelligence) in my coursework? The use of generative AI in this class, *unless specified in the instructions of an assignment*, will be considered a form of plagiarism, and will be assigned the same penalties. If you have questions, please ask your instructor.

Is Academic Integrity expected in this course? Yes, absolutely! The requirements of this course allow you to demonstrate your own understanding, growth, and mastery. It is expected that the tangible products of this course are truly yours in ownership.

Every student in my class can improve by doing their own work and trying their hardest with access to appropriate resources. For example, students who use other people's work without citations will be violating UNT's Academic Integrity Policy. Please read and follow this important set of guidelines for your academic success (https://policy.unt.edu/policy/06-003).

Academic dishonesty breaches the mutual trust necessary in an academic environment and undermines all scholarship. Our standard for academic integrity is a preponderance of evidence, a standard of review in the student appeal process that evaluates whether allegations are more likely to be true than not true. Consequences may include but not limited to; no credit for an assignment, lower course grade, course failure, etc. Violations will be filed with the Academic Integrity Office.

Attendance and Participation

You are preparing for a profession in which your daily presence is imperative to the success of your students and your attendance in this class represents that commitment. Our course is designed and organized to be highly collaborative and experiential. Therefore, your attendance and participation are essential to your (and others') learning. It is not possible to be enriched by discussions and collaborations if you are not present or prepared for class.

What is the attendance policy? Your presence is welcomed and expected for every class session. Attendance is taken every day and makes up the majority of your Professionalism grade.

Life happens. If you cannot attend class **for any reason, including for the observance of a religious holy day**, please:

1. Contact Mr. Hufford at Anthony.Hufford@unt.edu **before** class.
2. Use your resources to access all announcements, assignments and information presented or discussed in class, amid your absence. (Keep in mind that illness-related absences may require a doctor's note.)

Whether you have poor attendance and/or you don't attend the full class time, your grade will be adversely affected. Students missing more than 10 minutes of a class will be counted as absent. Below is the attendance policy.

- **3 tardies = 1 absence. This means arriving to class late *and/or* leaving class early.**
- **3 absences = final grade in the course will be lowered by one full letter grade.**
- **4 absences = final grade in the course will be lowered by two full letter grades.**
- **5 absences = F in the course.**

What about tardies? Due to the short amount of class time, it is imperative that you come on time, ready to participate. Tardies will adversely affect your attendance grade. Please keep in mind that:

- **3 tardies = 1 absence. This means arriving to class late *and/or* leaving class early.**

What is the participation policy? Your participation in class is required. The content taught is best learned by doing and discussion. Participating in class enhances student learning and growth. A reduction in the Professionalism portion of the final grade occurs when you do not actively and responsibly participate in the course.

How do I report an absence for a Mursion session? Follow the protocol below with a sense of urgency.

- Absence known in advance:
  - ✓ Contact Mr. Hufford at Anthony.Hufford@unt.edu

- Absence known the day of Mursion session:
  - ✓ Contact the Master Teacher assigned to observe you;
  - ✓ Contact Mr. Hufford at Anthony.Hufford@unt.edu; AND
  - ✓ Contact the TNT front desk at 940-565-2265 and leave a message.

Note: You will need to coordinate with your instructor to reschedule your session. Availability of the lab can be limited; it is highly encouraged that you honor your original timeslot to the best of your abilities.