



UNITED TRIBES®  
TECHNICAL COLLEGE

# EDU 355 Mathematics in the Elementary Classroom

Theresa Schuchard  
UNITED TRIBES TECHNICAL COLLEGE

## COURSE INFORMATION

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This course prepares teacher candidates to teach mathematics in elementary schools. The focus of this course will be on understanding mathematical concepts and developing appropriate lessons and strategies for teaching mathematical concepts to all children. An emphasis is placed on meeting the needs of all learners in culturally diverse educational environments. Prerequisite: MTH 277, MTH 377 (Field Experience Requirement)

Credits: 2

## CLASS INFORMATION

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Section Number: A

Term: Spring Year: 2020 Start Date: 1/13/2020 End Date: 5/8/2020

Meeting Times: Wednesday 4:30 PM - 6:30 PM

Meeting Location: Science and Teach Center Room 233

Delivery Mode: Face to Face

## INSTRUCTOR

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Theresa Schuchard

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Office Phone: (701) 400-1044

Office Location: Adjunct Instructor

Office Hours: By Appointment

## TEXTBOOKS

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Peterson, Jamee. (2013). *Math Games for Independent Practice: Games to Support math Workshops and More*. Math Solutions.

Burns, Marilyn. (2010). *About Teaching Mathematics: A K-8 Resource* (3rd Ed.). Math Solutions.

## EXTERNAL STANDARDS

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### Elementary Education

Sponsoring Organization: NDESP North Dakota Education Standards and Practices Board standards for preparation of Elementary Education teachers.

### INTASC Standard 7: Planning for Instruction

**50015.4c Candidates explicitly teach concepts, strategies, and skills, as appropriate, to guide learners as they think about and learn academic content.**

## COURSE OBJECTIVES

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1. Understand and apply theories of learning mathematics.
2. Identify aspects of mathematics that should be emphasized in the elementary grades.
3. Plan and teach mathematics lessons using instructional strategies that are developmentally appropriate for helping all students learn to understand and apply important mathematics concepts and procedures.
4. Investigate resources available for teachers of mathematics, including instructional materials, manipulative materials, multimedia, and human resources.
5. Explore and apply approaches to instruction and related assessment practices in mathematics that support the learning of important mathematics.
6. Conduct reflective reviews and participate in discussions regarding current research in mathematics.

## A. GRADING SCALE

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Grade	Percentage
A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	Below 60%

## B. COMMUNICATION

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All students are required to regularly check their MyUTTC account to obtain information on course assignments, detailed instructions, and announcements. Students are expected to check their student account regularly for any updates or coursework changes. It is important to provide the instructor and/or academic advisor with your current email address, phone numbers and alternate contact information. Class cancellations, emergency information, or other announcements can be conveyed in a timely manner if we have your current contact information.

## C. ATTENDANCE POLICY

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Class attendance is very important for academic success of all students enrolled at UTTC. Instructors are required to report student attendance into UTTC's Jenzabar data management system on a daily basis during census period (the first two weeks of fall and spring semesters, and the first week of summer semester) and throughout the academic semester. Students can track and monitor their own attendance, per class, on the Learning Management System (LMS) found at [my.uttc.edu](http://my.uttc.edu).

UTTC recognizes particular circumstances may arise that affect the student's ability to attend class; therefore, it is important students communicate with their instructors regarding any emergencies that cause them to miss class (i.e. medical, family emergency). Regardless of the circumstances, the student is responsible for obtaining any information, such as assignments, handouts, and any course changes or announcements that he or she may have missed because of

the absence. The student may refer to the course assignments in my.uttc.edu, contact another student enrolled in the course, or set up a meeting with the course instructor to get the missing information.

Attendance, completion of assigned readings and assignments, and engagement is the equivalent of participation since the student's engagement with classmates contribute to everyone's understanding and achievement. Student grades will be impacted by the frequency and quality of participation in class.

Faculty members are required to report student non-attendance during the Census period at the start of each academic term in compliance with federal regulations pertaining to financial aid.

Instructors will initiate an academic attendance "Early Alert" using the Jenzabar retention tool using the Attendance Policy & Withdrawal guidelines found in the Academic Affairs section of the College Catalog.

## **D. PARTICIPATION/CLASS ENGAGEMENT**

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UTTC prepares students for the workforce by having high expectations for skills demonstrated in the classroom that transfer into future employment. This includes students' ability to be on time for class, to refrain from external distractions (cell phone usage, holding side conversations with other students), by providing positive contributions to class discussions, participating in individual or group activities, and being prepared for class. Students will be assessed during the semester on the ability to demonstrate these skills.

## **E. POLICY FOR LATE ASSIGNMENT SUBMISSION**

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UTTC supports and fosters the student's responsibility for completing and submitting assignments on or before scheduled due dates and times. If an assignment is due, the student should make every effort to submit the assignment on time. Occasionally, a student may experience an unexpected life event that results in the submission of late work. Communication is the key. Instructors are more than willing to work with students in the event of an emergency if the student communicates with them before the date and time the assignment is due to make other arrangements.

Late assignment deadlines will vary among departments but will not exceed more than five (5) business days after which the assignment was initially due. Assignment due dates, late assignment deadlines, and late assignment penalties are outlined in course syllabi. Assignments not submitted by the initial deadline date will be reflected in the course gradebook as a zero (0) until the assignment has been submitted. The amount of points deducted for late work is at the discretion of the instructor.

**\*Teacher Education course assignments will receive half credit up to the five (5) business days which the assignment was initially due.**

## **F. MISSED TESTS, EXAMS AND QUIZZES (FORMAL ASSESSMENTS)**

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Students may not make up a missed test, exam or quiz without a valid reason for their absence (illness, family emergency). It is the student's responsibility to contact their instructors before the absence, or within 24 hours after missing the formal assessment. The instructor will review the reason the student missed and determine if the circumstance justifies the student being allowed to take the formal assessment.

Approved make-up assessments must be taken outside of the student's regular class schedule and during a time and location agreed upon between the student and instructor. Students are not to miss another class in order to make-up an assessment for another course. If the student fails to show on the date and time of the makeup assessment, the student will not be permitted to reschedule the makeup and the assessment and will earn a 0% grade.

**\*Presentations will follow the same policy**

## **G. EARLY ALERT SYSTEM**

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UTTC's Early Alert System (EAS) is a proactive, communication driven support system that provides timely identification and interventions to work with individual students to assist in generating plans to overcome challenges to college success. The system assists UTTC students by linking them to faculty and staff who can provide and connect students to available resources and strategies. The early alert serves as an opportunity for students to take ownership of their success and empower them to accomplish academic and personal goals. The system helps faculty and academic advisors connect and communicate with students as issues arise. The additional cross-wide partnerships create a culture of collaboration focused upon the best interest of UTTC students.

Academic related concerns such as attendance, missing assignments, or classroom behavior will result in an early alert being issued by faculty. When an early alert is issued, the student will receive an email requesting them to make arrangement to follow up with the instructor and/or their academic advisor. Students receiving an early alert should make the necessary arrangements to set up and meet with faculty as soon as possible to generate a plan of success.

## **H. CELL PHONE**

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Out of respect for the other students and the instructor, it is advised that cell phones are turned off during class times. If the student is expecting an important phone call (e.g. case worker, Housing, clinic), the instructor must be informed ahead of time and the cell phone set to a silent ring. If such a phone call is received during class time, the student will answer the call by quietly removing him or herself from the classroom. This also includes texting during class; it is not acceptable. Students may not use class time to check social media accounts, voicemail, and/or personal emails.

## **I. STUDENT BEHAVIOR**

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UTTC students will conduct themselves in a responsible and respectful manner at all times in the classroom, in the hallways, in the Library, the Cafeteria, and any other location on campus. Student behavior that interferes with learning in the classroom will not be tolerated. This behavior includes chronic tardiness, threatening confrontations, intoxication, inappropriate physical contact, lewd or disrespectful language or gestures directed at the instructor or at fellow students, bullying, direct or indirect intimidation, and conversations with other students that are not related to classroom topics.

Faculty are expected to maintain professional management of classroom activities prior to, during and after class times. As such, if a student demonstrates behavior that disrupts or interferes with classroom activities, an instructor reserves the right to ask the student to leave the classroom, to contact campus security, to request mediation by the academic department chair or an academic/personal counselor, or to file a formal complaint subject to a student disciplinary hearing.

## **J. PLAGIARISM AND ACADEMIC INTEGRITY**

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Plagiarism is the term for taking credit for work that is not your own. This means you cannot take material from articles, books or websites you find in the library and present it as your own work; you cannot let your friends prepare your assignments for you; and you cannot copy an assignment from a student who took the same course in another semester. Plagiarism is taken seriously because this is a place for learning and new ideas; your assignments are evidence of your learning, your original ideas.

Providing work that is not your own, or that is not unique to the assignment, is inappropriate as a form of dishonesty. The consequences of plagiarism are serious: you will be given an F on the specific assignment, or the entire course, at the instructor's discretion. If you need advice on how to appropriately cite the work of others, please ask. As long as you acknowledge an idea is not your own, and provide the original source, it is generally not plagiarism.

Examples of violations of academic integrity are lying about the reason for an absence, or signing someone else's name to a sign-in sheet when they were not present. Please keep in mind that students generally ask their instructors for recommendations, whether for jobs or for scholarships.

## **K. STUDENTS WITH DISABILITIES**

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United Tribes Technical College recognizes its responsibility for making reasonable accommodations to ensure there is no discrimination on the basis of a disability. The Disabilities Services Office coordinates reasonable accommodations, support services, and appropriate referrals for the purpose of removing barriers and providing an equitable learning environment. If you have a disability, please contact the Disabilities Services (DS) office at (701) 255-3285, ext. 1516.

## **L. TITLE IX STATEMENT**

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Title IX is a federal civil rights law that prohibits discrimination on the basis of sex, including sexual harassment, rape and sexual assault. United Tribes Technical College is committed to upholding the law and standards that promote respect and human dignity in a safe environment. Sexual misconduct and relationship violence in any form violates UTTC's mission, cultural values, Student Code of Conduct, and may also violate federal and state law. Faculty members are considered "mandatory reporters" and are required to report incidents of sexual misconduct and relationship violence to the Title IX office on campus. If you or someone you know has been impacted by sexual assault, dating and domestic violence, stalking or sexual exploitation, you can find the appropriate resources on the UTTC campus and in the community. These resources include:

- UTTC Title IX Office: (701) 221.1591
- UTTC Campus Safety & Security: (701) 221.1700
- UTTC Academic & Personal Counseling: (701) 221. 1764
- UTTC Domestic Violence Advocate: (701) 221. 1764
- Abused Adult Resource Center Crisis Line: (866) 341.7009
- ND Helpline: 211

## ND ESPB Elementary Education Standards, Outcomes and Course Assessments

ND ESPB Elementary Education Standard	<u>Assessment</u> Taskstream Portfolio Artifact
<b>INTASC Standard 7: Planning for Instruction</b>	
50015.4c Candidates explicitly teach concepts, strategies, and skills, as appropriate, to guide learners as they think about and learn academic content.	homework assignments, in-class discussion and practice, 3 activity shares, unit study and reflection

## United Tribes Technical College Teacher Education Conceptual Framework



The Teacher Education unit seeks to improve the quality of education in America by producing reflective professional educators who have demonstrated competency in the knowledge, skills and dispositions necessary for effective teaching through a coherent program of study. Using the INTASC (Interstate New Teacher Assessment and Support Consortium) standards, as well as the philosophy of the department's conceptual framework, Teacher Education has established candidate outcomes that are assessed throughout the Teacher Education program(s)

The Teacher Education program is based on shared core beliefs that incorporate the 4Rs - Relatedness, Relevance, Respect, and Responsibility.

**Relatedness** is evidenced by believing and behaving as if you are a relative to another person or thing. It is demonstrated and reinforced through collaborations with children and families.

**Relevance** is meaningful and authentic learning experiences tied directly to state and national standards. Candidates learn and experience reflective practice through hands-on practicums in the classroom under mentor and instructor guidance. They are provided the opportunity to study concepts that are meaningful and relevant to one's life and interests.

**Respect** is an important traditional Native value. Respect is demonstrated through candidate contributions and their respect of others' contributions. The disposition of respect is demonstrated through courtesy, kindness, and acceptance of individuals and their contributions.

**Responsibility** is a core value of Native cultures as well as the culture of teaching. Candidates are expected to demonstrate accountability for their actions and decisions as they engage in their general education and teacher education curriculum.

## Major Class Assignments

Assignment	Description	Points
Content Standards	Visit DPI and review and save ND content standards for Gr. 1-8	50 points
Participation	Engage in weekly class lessons, answer exit slips at end of class	10 points each week
Observations/Reflection	Math Environment, Math block, calendar <b>Choose one</b>	50 points
Observation	Observe cooperating teacher teaching math	50 points
Lesson Plans	<b>3</b> lessons plans for full math block including reflection & student work (paper, pictures, etc) <u>ONE must include children's literature</u>  <b>You will teach these to your peers. These can also be used in your math unit, ONE must be a lesson you teach in your practicum</b>	100 points each
Math Game	Teach 2 Math Games for independent practice (see rubric)	50 points
Math Philosophy	Philosophy on math block, environment, PLC, calendar, differentiation, pace, practicing skills, assessment, and delivery of math standards	100 points
Math Unit	3 activities tied to each domain of math standards for grade level using shortened lesson plan; Include any recording sheets. Final may be submitted in folders <b>OR</b> in a 3-ring binder.	300 points

During practicum: **Choice to complete ONE of the following during first observations.**

Math Environment: Describe your classroom (students, number of boys and girls, any IEP's, how are the desks/tables arranged) What do you notice about math in the classroom? Posters/anchor charts, math tools, student personal math tools. If materials are differentiated, how do the students know? How are math tools accessed? What routines are in place (sharing ideas, interacting with math, resources used)? What else are you wondering? **EACH of these questions are expected to be in a paragraph with at least 3 sentences each.**

Math Block: **Describe your classroom** Time of day, length of block, how is the time used (mini-lesson, whole group, small group, independent practice, any technology utilized). How do the students know what standards they are working on? Are all students working on same standard? If so, is it differentiated? What kind of assessments does the teacher use? How are the skills/standards practice? What do students do if they finish early? **EACH of these questions are expected to be in a paragraph with at least 3 sentences each.**

Calendar: **Describe your classroom** Timeline of the calendar and what standards are being address. What are the students doing? Describe in detail the questions the teacher asks and how the students share answers (watch for nonverbal responses and prompts) Writing, raising hands to answer, cold call, choral response, pair/share. **EACH of these questions are expected to be in a paragraph with at least 3 sentences each.**

**OBSERVATION Math Lesson by Cooperating Teacher: Think about your lesson format** Describe your classroom (students, number of boys and girls, any IEP's, how are the desks/tables arranged) and the beginning and ending time you were observing. What resources were used by the teacher; what set up did he/she do beforehand? What did you notice? What standards were covered? How was the purpose stated? How are students grouped/paired? What happened at the beginning (before), during, and after (how did she wrap up the lesson) What other things are you wondering?

**EACH of these questions are expected to be in a paragraph with at least 3 sentences each.**

**Literature in Math Lesson Plan** Choose a grade level standard that aligns with piece of literature. Plan an activity or game using shortened lesson plan for book. The book will begin your lesson (engagement piece). You will teach and reflect using book to methods class. This can also be used as a lesson in your end of year portfolio.

### Rubric for Math Games

Materials ready 10 points	Materials not ready	
Part 1: Make Connection 10 points	Part 1 without questioning—5 points	Part 1 missing---0 Points
Part 2: introduce and model game following sequence 20 points	Part 2: introduce and told about game but didn't model—10 points	Part 2: Missing parts 5 points
Part 3: Engagement 10 points Circulated and asked us all questions	Part 3: Engagement 5 points Circulated without asking all questions	Part 3: Engagement Didn't circulate or didn't ask questions 0 points
Part 4: Wrap Up 10 points Brought back and reviewed connections and purpose of lesson	Part 4: Wrap Up 5 points Told but didn't ask questions about activity	Part 4: Wrap Up 0 points Lesson ended with activity and no wrap up

### Class Schedule

Month	Focus
January	<ul style="list-style-type: none"> <li>Standards (internet quest)</li> <li>Using math games</li> <li>Number Sense</li> <li>Math Observation</li> </ul>
February	<ul style="list-style-type: none"> <li>Literature in math</li> <li>Math workshop</li> <li>Number Talks</li> <li>Lesson shares (games and lesson plan)</li> </ul>
March	<ul style="list-style-type: none"> <li>Arithmetic</li> <li>Lesson Plan in modeled &amp; in classroom</li> <li>Spring Break March 16-20</li> <li>2020 AIHEC Student Conference-Albuquerque Mar 21-24</li> <li>Math Games</li> </ul>
April	<ul style="list-style-type: none"> <li>Measurement</li> <li>Fractions</li> <li>Algebra</li> <li>Model games &amp; Lesson plans</li> <li>Math Education Philosophy</li> </ul>
May	<ul style="list-style-type: none"> <li>May 6<sup>th</sup> pick up portfolio 5:00-5:30</li> <li>Class evaluation</li> </ul>