

University of North Texas at Dallas
Fall 2016
SYLLABUS

EDEC 5322: Teaching Pre-K/K Math and Science 3 hrs			
Department of	Teacher Education and Administration	School of	Education and Human Services
Instructor Name:	Dr. LaBotta Taylor		
Office Location:	UNT-D Adjunct Office		
Office Phone:	469-708-8683		
Email Address:	LaBotta.Taylor@untdallas.edu		
Office Hours:	By Appointment		
Course Format/Structure:	Face to Face; plus online assignments		
Classroom Location:	UNT-Dallas		
Class Meeting Days & Times:	Mondays @ 5:30 – 8:20 p.m. Face to Face; plus online assignments		
Course Catalog Description:	Inquiry based and experiential approach to understanding 4 through 6 year olds' development of math and science concepts. Begins with physical, cognitive, social, and emotional development of 4 through 6 year olds as it relates to math and science concepts. Students learn practical skills to assess, plan lessons, implement, and reflect on teaching of math and science concepts to 4 through 6 year olds. Special attention is given to Texas Prekindergarten guidelines and Kindergarten TEKS for math and science.		
Prerequisites:	<i>Graduate Student Standing</i>		
Co-requisites:	<i>Departmental approval</i>		
Required Text:	<p>Froschauer, L. (2013). A year of inquiry: A collection for elementary educators. Arlington, VA: National Science Teachers Association (NSTA).</p> <p>Stein, M.K. & Smith, M.S. (2011). 5 practices for orchestrating productive mathematics discussion. Thousand Oaks, CA: National Council of Teachers of Mathematics (NCTM).</p> <p>Science book may be purchased through Amazon or download the PDF eBook through NSTA (\$16.87 for NSTA members/\$19.46 non-members). https://learningcenter.nsta.org/resource/?id=10.2505/9781936959655</p>		
Recommended Text and References:	Texas Education Agency Pre-K guidelines/Kindergarten TEKS		
Access to Learning Resources:	<p>UNT Dallas Library: (Founders Hall) phone: (972) 780-1616 web: http://www.untdallas.edu/library e-mail: Library@untdallas.edu</p> <p>UNT Dallas Bookstore: (Building 1) phone: (972) 780-3652 web: http://www.untdallas.edu/bookstore e-mail: untdallas@bkstr.com</p>		
Course Goals or Overview: The goal of this course is to develop knowledge and practical skills to assess, plan lessons, implement, and reflect on teaching math and science to 4 through 6 year olds.			

Learning Objectives/Outcomes: At the end of this course, students will be able to:

1	Describe indicators of typical and atypical physical, cognitive, social, and emotional development of preschool children.
2	Explain how children learn science and math concepts including cause and effect, patterns, sequence, classifying, problem solving, and collecting data.
3	Explain the national (NAEYC) and state (Texas Prekindergarten Guidelines and Texas Kindergarten TEKS) criteria for math and science.
4	Demonstrate the ability to assess children's math and science achievements
5	Plan and implement developmentally appropriate Pre-K math and science lesson plans that incorporate multi-culturally diverse music and art.
6	Demonstrate inquiry based critical reflection skills to improve implementation of curriculum.
7	Use research literature to improve implementation of curriculum.

Course Outline

This schedule is subject to change by the instructor. Any changes to this schedule will be communicated in class or via class email or Blackboard announcement. Readings should be completed prior to the week. Additional readings and activities may be added, these will be noted in the Readings and Activities/Assignments sections.

Timeline	Topics	Related SLO	Readings/ Activities/Assignments
Week 1 8/22	Syllabus/Introduction	1, 2	Purchase required textbooks Discussion Board 1
Week 2 8/29	How Children Learn math and science concepts Texas Prekindergarten guidelines and Kindergarten TEKS for math and science	1, 2, 3	Introductory chapters of textbooks Discussion Board 2
Week 3 Labor Day /No School (9/5)	Creating a Constructivist Learning Environment	1, 5	NSTA & NCTM Discussion Board 3
Week 4 9/12	Environments that Promote Learning of Math and Science	3, 4	NSTA & NCTM Discussion Board 4
Week 5 9/19	The Process of Problem Solving for children; Assessment of Math & Science concepts	3, 6	NSTA & NCTM Discussion Board 5 Journal 1
Week 6 9/26	Measurement – A Way to Capture Observation in Math and Science	3, 6, 7	NSTA & NCTM Discussion Board 6
Week 7 10/3	Midterm Week	1-7	Midterm Due
Week 8 10/10	Organizing Data in Science	5, 6, 7	NSTA & NCTM Journal 2
Week 9 10/17	Organizing Data in Math	5, 6, 7	NSTA & NCTM Discussion Board 7
Week 10 10/24	Criteria for Developing Concept Explorations	1-7	NSTA & NCTM Discussion Board 8 Reflection Paper 1 Due
Week 11 10/31	Astronomy & Space Science: Newton's Three Laws of Motion and Rocketry; Patterns & Measurement; Birds: Migratory Patterns & Number Operation	3, 5	NSTA & NCTM Discussion Board 9 Journal 3
Week 12 11/7	Clouds: Meteorology & Geometry Insects: Metamorphosis: Patterns & Sorting; Leaves: Photosynthesis; Patterns & Sequencing	1, 3, 7	NSTA & NCTM Discussion Board 10 Reflection Paper 2 Due
Week 13 11/14	Light and Color: Polarization & Refraction; Geometry & Measurement; Rocks: Minerals & Data Analysis; Seeds: Germination; Measurement & Data Analysis	2, 4, 6	NSTA & NCTM Journal 4
Week 14 11/21	Sun and Shadows: Astronomy; Algebra; Toys and Tools: Mechanics; Measurement & Algebra	1, 3, 7	NSTA & NCTM Journal 5
Week 15 11/28	Review for Final	1-7	Review for final.
Week 16 12/5	Review for Final	1-7	Review for final.

Finals will be scheduled according to the university schedule. Attendance is mandatory or an automatic zero will be given.

Course Evaluation Methods

This course will utilize the following instruments to determine student grades and proficiency of the learning outcomes for the course.

Exams: - written tests designed to measure knowledge of presented course material

Assignments: - written assignments designed to supplement and reinforce course material (see Blackboard for rubric)

Projects: - assignments designed to measure ability to apply presented course material (see Blackboard for rubric)

1. Discussion Boards: Each class, students will post their responses to questions and prompts on the Blackboard Discussion Board. Posts will be graded on accuracy of content, quality, and professional response to others. Rubric will be provided on Blackboard. Discussion board will focus on (a) explain theory, (b) explain research findings, and (c) explain practice implementation of TEKS in light of the theory and research.
2. **Reflection Paper (previously the Assessment Video assignment)** – Students will analyze and evaluate their experience in assessing a kindergarten student or small group of students as they engage in math and science problem solving skills. Rubric will be provided on Blackboard.
3. Critical Reflection Journal - Students will maintain a journal of (a) your subjective thoughts and feelings related to theory to practice on this week’s topics; (b) what is working and what is not working; (c) analysis of your own strengths and growth areas (challenges); and (d) action plan for being a change agent (i.e. changing something in you; adapting approach for my school; influencing leadership, or developing common ground among teachers and parents).
4. Midterm/Final Exam: Projects are due on scheduled dates. Rubrics will be provided on Blackboard.

Grading Matrix:

Instrument	Measures SLO	Value (points or percentages)	Total
Discussion Boards	1 – 2, 6	10 Posts x 50 points each	500
Performance-Based Assessment Reflection Paper Due	3	2 performance-based assessments x 50 points	100
Midterm and Final Exam Projects	4	2 projects x 100 points each	200
Critical Reflection Journal	5	5 journal papers x 40 points	200
TOTAL:			1,000

Grade Determination

A = 1,000 – 900 pts; i.e. 90% or better

B = 800 – 899 pts; i.e. 80 – 89 %

C = 700 – 799 pts; i.e. 70 – 79 %

D = 600 – 699 pts; i.e. 60 – 69 %

F = 599 pts. or below; i.e. less than 60%

University Policies and Procedures

Students with Disabilities (ADA Compliance): The University of North Texas at Dallas makes reasonable academic accommodation for students with disabilities. Students seeking accommodations must first register with the Disability Services Office (DSO) to verify their eligibility. If a disability is verified, the DSO will provide you with an accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request accommodations at any time, however, DSO notices of 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 accommodation for every semester and must meet/communicate with each faculty member prior to implementation in each class. Students are strongly encouraged to deliver letters of 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 see the Disability Services Office website at <http://www.untDallas.edu/disability>. You may also contact them by phone at 972-338-1777; by email at UNTDdisability@untDallas.edu or at Founders Hall, room 204. (UNTD Policy 7.004)

CourseEval Policy: Student's evaluations of teaching effectiveness are a requirement for all organized classes at UNT Dallas. This short survey will be made available to you at the end of the semester, providing you a chance to comment on how this class is taught. I am very interested in the feedback I get from students, as I work to continually improve my teaching. I consider students' evaluations to be an important part of your participation in this class.

Assignment Policy: Turn in all assignments via Blackboard. No late assignments accepted.

Exam Policy: Exams should be taken as scheduled. No makeup examinations will be allowed except for documented emergencies (See Student Handbook).

Academic Integrity: Academic integrity is a hallmark of higher education. You are expected to abide by the University's code of Academic Integrity policy. Any person suspected of academic dishonesty (i.e., cheating or plagiarism) will be handled in accordance with the University's policies and procedures. Refer to the Student Code of Academic Integrity (Policy 7.002) at http://www.untDallas.edu/sites/default/files/page_level2/pdf/policy/7.002%20Code%20of%20Academic_Integrity.pdf Refer to the Student Code of Student Rights, Responsibilities and Conduct at http://www.untDallas.edu/sites/default/files/page_level2/hds0041/pdf/7_001_student_code_of_conduct_may_2014.pdf Academic dishonesty includes, but is not limited to, cheating, plagiarizing, fabrication of information or citations, facilitating acts of dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students. In addition, all academic work turned in for this class, including exams, papers and written assignments must include the following statement: "*On my honor, I have not given, nor received, nor witnessed any unauthorized assistance that violates the UNTD Academic Integrity Policy.*"

Bad Weather Policy: Campus facilities will close and operations will be suspended when adverse weather and/or safety hazards exist on the UNTD campus or if travel to the campus is deemed dangerous as the result of ice, sleet or snow. In the event of a campus closure, the Marketing and Communication Department will report closure information to all appropriate major media by 7 a.m. That department will also update the UNTD website, Facebook and Twitter with closing information as soon as it is possible. For more information please refer to <http://www.untDallas.edu/police/resources/notifications>

Attendance and Participation Policy:

Class attendance and participation (both face to face and online) are expected because the class is designed as a shared learning experience and because essential information not in the textbook will be discussed in class or via Blackboard. The dynamic and intensive nature of this course makes it impossible for students to make-up or to receive credit for missed classes. Attendance and participation in all class meetings and online discussions are essential to the integration of course material and your ability to demonstrate proficiency. Students are responsible to notify the instructor if they are missing class and for what reason. Students are also responsible to make up any work covered in class. It is recommended that each student coordinate with a student colleague to obtain a copy of the class notes, if they are absent. *The University attendance policy is in effect for this course. Please refer to Policy 7.005 Student Attendance at <http://www.untDallas.edu/hr/upol>*

Diversity/Tolerance Policy: Students are encouraged to contribute their perspectives and insights to class discussions. However, offensive and inappropriate language (swearing) and remarks offensive to others of particular nationalities, ethnic groups, sexual preferences, religious groups, genders, or other ascribed statuses will not be tolerated. Disruptions which violate the Code of Student Conduct will be referred to the Dean of Students as the instructor deems appropriate. (UNTD Policy 7.001)