University of North Texas at Dallas

Summer 2016

EDCI 5900-020 Numbers and Operations for Teachers of Grades 4-6 3 credit hours

Department: Teacher Education and Administration

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Office hours: Mondays and Wednesdays noon to 1:00
Tuesdays, Thursdays, and Fridays by appointment

Class Location:

Class Times:

Course Catalog Description:

This course is intended for individuals who possess a Texas teaching certificate and who will be teaching mathematics during the following academic year. The purpose of the course is to deepen teachers' pedagogical content knowledge related to the number and operations concepts that are required by the Texas Essential Knowledge and Skills in grades 4, 5, and 6.

Textbook:

Beckmann, S. (2014). *Mathematics for Elementary Teachers with Activities* (fourth edition).

Learning Objectives:

1. Students will learn content related to decimals and will evaluate various strategies for teaching children about decimals, including computation with decimals.
2. Students will learn content related to word problems and will evaluate various strategies for teaching children about word problems.
3. Students will learn content related to positive and negative integers and will evaluate various strategies for teaching children about integers.
4. Students will learn content related to various forms of rational numbers and will evaluate various strategies for teaching children about rational numbers.
5. Students will learn content related to multiplication and division of fractions and will evaluate various strategies for teaching children about multiplication and division of fractions.

INTASC Standards:

InTASC Standard #4 Content Knowledge: The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and creates learning experiences that make these aspects of the discipline meaningful for learners to ensure mastery of the content.

InTASC Standard #5 Application of Content The teacher understands how to connect concepts and use differing perspectives to engage learners in critical thinking, creativity, and collaborative problem solving related to authentic local and global issues.

Texas Essential Knowledge and Skills:

- 4.2 The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value.
- 4.4(H) The student is expected to solve with fluency one- and two-step problems using multiplication and division, including interpreting remainders.
- 4.5(A) The student is expected to represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity.
- 5.2 The student applies mathematical process standards to represent, compare, and order positive rational numbers and understand relationships as related to place value.
- 5.3 The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy.
- 6.3 The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions.
- 6.4(G) The student is expected to generate equivalent forms of fractions, decimals and percents using real-world problems, including problems that involve money.

Learning Resources:

UNT Dallas Math Lab is located on the third floor of Bldg 1.

Blackboard Learn is online at https://learn.untdallas.edu

Grading:

Midterm Exam	100 points
Final Exam	100 points
Project & Paper	150 points
Presentation	50 points
Attendance	50 points
Group Assignments	50 points
	500 points total

Course Outline

Dates	In Class	On Your Own
June 6-10 Word Problems	Monday: • Explanation of course and requirements • Written Reflection • Group paper: Students' issues with word problems • Class Activity 6E Wednesday: • Guest Speaker: Dr. Janecek speaks about ELLs • Discuss problems from sections 6.2 and 9.5 • Class Activity 9U	1. Read and do problems in sections 6.2 and 9.5 2. Decide on topic for "Revising Assignments" project 3. With Dr. Johnson, identify an article related to your topic. Read that article.
June 13-17 Integers	Monday: • Pre-Assessment • Group paper: Students' issues with integers • Class Activity 3U Wednesday: • Discuss problems from sections 3.5 and 5.3 • Class Activity 5I • Midterm Exam	1. Read and do problems in sections 3.5 and 5.3 2. Arrange a date for your article presentation and plan it. 3. Identify two assignments that you give to students that need revision.
June 20-24 Rational Numbers	Monday: • Group paper: Students' issues with converting fractions, decimals, percents • Class Activity 2K Wednesday: • Discuss problems from section 2.3, 2.4, 2.5 • Class Activity 2M	1. Read and do problems in sections 2.3, 2.4, and 2.5 2. Work on the paper and turn in what you have written up to this point.
June 28-July 1	CAMT in San Antonio	Work on the paper and revise the two assignments.
July 4-8 Computation w/ Fractions	Monday: • No class due to Independence Day Wednesday: • Final Exam	1. Read and do problems in sections 5.1, 6.4, and 6.5. 2. Finish and turn in the paper and the two revised assignments.

Assignments and Assessments

Exams

The midterm and final exam will be based on material from the Beckmann textbook and mathematics content discussed in class.

"Revising Assignments" Project and Paper

Each student will identify a mathematical topic to research. The student and Dr. Johnson will jointly identify an article for the student to read and present to the class. The student will identify two assignments that he or she uses with children. The student will revise these assignments based on what was learned from the article and the Beckmann textbook. The student will write a paper describing the problems faced in teaching this topic, describing what was learned from the article and textbook, and describing how and why the two assignments were revised. Both the original and revised assignments will be submitted.

Presentation

Each student will read one article for the "Revising Assignments" project and present this article to the class. The student should prepare material ahead of time, such as a handout or PowerPoint presentation to help the class understand the article.

Group Assignments

Group Papers

During class, students will be divided into groups and asked to write a "group paper" that outlines their experiences teaching children about a particular mathematics topic. students in the group will receive the same grade for the group paper.

Class Activities

During class, students will be divided into groups and asked to complete a Class Activity from the Beckmann textbook. All students in the group will receive the same grade for the class activity.

Attendance

Students will receive credit for attending and participating in class. A student who misses class for any reason will not be given credit for attending the class. Participating in group work is required.

University Policies and Procedures

Students with Disabilities (ADA Compliance)

Chapter 7(7.004) Disability Accommodations for Students

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 Building 2, room 204.

Blackboard Learn Accessibility Statement:
University of North Texas at Dallas is committed to ensuring its online and hybrid courses are usable by all students and faculty including those with disabilities. If you encounter any difficulties with technologies, please contact our ITSS Department. To better assist them, you would want to have the operating system, web browser and information on any assistive technology being used. Blackboard Learn course management system's accessibility statement is also provided: http://www.blackboard.com/Platforms/Learn/Resources/Accessibility.aspx

NOTE: Additional instructional technology tools, such as Turnitin, Respondus, Panopto, and publisher cartridge content (i.e. MyLab, Pearson, etc.) may NOT be fully ADA compliant. Please contact our Disability Office should you require additional assistance utilizing any of these tools.

Course Evaluation Policy

Student's evaluations of teaching effectiveness is 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.

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 at http://www.untdallas.edu/sites/default/files/page_level2/pdf/policy/7.002%20Code%20of%20Academic_Integrity.pdf for complete provisions of this code.

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.

Web-based Plagiarism Detection*:* Please be aware in some online or hybrid courses, students may be required to submit written assignments to Turnitin, a web-based plagiarism detection service, or another method. If submitting to Turnitin, please remove your title page and other personal information.

Classroom Policies

Online Attendance and Participation

The University attendance policy is in effect for this course. Class attendance in the Blackboard classroom and participation is expected because the class is designed as a shared learning experience, and because essential information not in the textbook will be discussed in the discussion board. Online presence and participation in all class discussions is essential to the integration of course material and your ability to demonstrate proficiency. .

Attendance for this online or hybrid course is considered when you are logged in and active in Blackboard, i.e., posting assignments, taking quizzes, or completing Discussion Boards. To maintain financial aid award eligibility, activity must occur before the census date of the session or term of the course. Refer to http://www.untdallas.edu/registrar for specific dates. If you are absent/not active in the course shell, it is YOUR responsibility to let the instructor know immediately, upon your return, the reason for your absence if it is to be excused. All instructors must follow university policy 7.005 covering excused absences; however, it is the instructor's discretion, as outlined in the course syllabus, of how unexcused absences may or may not count against successful completion of the course

Inclement Weather and Online Classes
Online classes may or may not be effected by campus closures due to inclement weather. Unless otherwise notified by your instructor via e-mail, online messaging, or online announcement, students should assume that assignments are due as scheduled.

Online "Netiquette

In any social interaction, certain rules of etiquette are expected and contribute to more enjoyable and productive communication. Emails, Discussion Board messages and/or any other forms of written communication in the online environment should use proper "netiquette" (i.e., no writing in all caps (usually denotes yelling), no curse words, and no "flaming" messages (angry, personal attacks).

Racial, ethnic, or gender slurs will not be tolerated, nor will pornography of any kind.

Any violation of online netiquette may result in a loss of points or removal from the course and referral to the Dean of Students, including warnings and other sanctions in accordance with the University's policies and procedures. Refer to the Student Code of Student Rights Responsibilities and Conduct at http://www.untdallas.edu/osa/policies. Respect is a given principle in all online communication. Therefore, please be sure to proofread all of your written communication prior to submission.

Diversity/Tolerance Policy

Students are encouraged to contribute their perspectives and insights to class discussions in the online environment. However, offensive & 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 that violate the Code of Student Conduct will be referred to the Dean of Students as the instructor deems appropriate.

Technology Requirements

In order to successfully access the materials in an online or hybrid course, UNT Dallas advises that your computer be equipped with the minimum system requirements.

Blackboard Learn 9.1 is the platform software for this course. Blackboard Learn supports major web browsers such as Windows Internet Explorer, Apple Safari, Mozilla Firefox, and Google Chrome. However, since the latter two are updated continually, some recent versions may not be compatible. If you experience difficulty accessing or using components of the course, try using Internet Explorer. Also, no matter what browser you use, always enable pop-ups. For more information see:

- http://www.untdallas.edu/dlit/ecampus/requirements
- https://blackboard.secure.force.com/publickbarticleview?id=kAB700000008Oom
- https://learn.unt.edu/bbcswebdav/institution/BrowserCheck/check_full.html