

**Dixie State University of Utah
Education Department**

Spring 2014

***Methods in Teaching Elementary Mathematics
ELED 4100***

Course: ELED 4100.01 CRN # 23114

Meeting Days and Time: Mon. 4:30 – 6:10

Instructor: Greg Murray, PhD., Assistant Professor

Class Location: Snow Math & Science, Room 147

Office Location: Snow Math & Science, Room 127

Office Hours: Monday 11:00—1:00 & Thursday 10:00 –1:00

Credits: 3 credits

Semester/Year: Spring 2014

Email Address: gmurray@dixie.edu

Office Phone: 652 - 7985

Course Description This course will provide a basis for pre-service teachers to gain an understanding of Common Core standards in mathematics education, as well as effective teaching and assessment strategies that help teachers meet the various needs of all learners in the public school setting.

Course Objectives

Upon completion of this course, the student will be able to:

1. Identify and use the standards set by the National Council of Teachers of Mathematics (NCTM) by incorporating these standards into lesson plans. (DM2)
2. Identify and use the Utah State K-6 and Common Core Curriculum in the areas of mathematics, identify the connections with national standards, and incorporate these standards into lesson plans. (DM1,DM2)
3. Demonstrate knowledge and understanding of mathematical concepts in the K-6 curriculum. (DM3)
4. Explain current research on best practices in teaching mathematics to elementary students and use best practices in developing and teaching lessons. (DM1, DM2, DM3, DM4, DM5,DM 6)
5. Demonstrate proficiency in the use of a broad range of mathematics assessments, instructional strategies, and intervention strategies. (DM1, DM2, DM4)
6. Evaluate practicum experiences through course assignments, teaching experiences, and self reflection. (DM5)

Prerequisites

Admission to Dixie State University Elementary Education Baccalaureate Program and successful completion of Math 2010 and Math 2020.

Required Textbook (s) / Recommended Books

Learning Mathematics in Elementary and Middle Schools: A Learner Centered Approach (5th Ed.) by George Cathcart, Yvonne M. Pothier, James H. Vance, and Nadine S. Bezuk

Web site for practice quizzes and study support: <http://www.prenhall.com/cathcart>

**DSU Department of Education Program Standards
Mission Statement**

The main focus of our Education Department is the development of competent, caring, and qualified educators by ensuring that candidates demonstrate professional abilities in academic and pedagogical

knowledge and the skills and dispositions of reflective practitioners. In order to develop these qualities, our degrees and programs include: (a) a competitive selection process to identify highly-qualified candidates; (b) academic rigor through curriculum and assessments; (c) technology tools to enhance teacher work and student learning; and (d) multiple practicum and student teaching experiences in the local school district monitored by experienced teachers and college supervisors.

The D.E.S.E.R.T model outcomes are listed below and incorporate national standards (InTASC, TEAC, CAEP), Utah Education Teaching Standards (UETS), and Dixie State University core themes of a culture of learning; a culture of values; and a culture of community.

D.E.S.E.R.T. Model – Program Outcomes

Teacher Candidates:

D-Diversity (DM1)

Understands diversity differences, uses culturally responsive curricula, and supports development of English proficiency to meet the needs of all learners.

E-Effective Pedagogy (DM2)

Creates effective and appropriate instruction, uses technology to support and extend learning, and implements multiple assessments to measure learner knowledge and skills.

S-Subject Matter (DM3)

Demonstrates confidence, subject matter knowledge, uses instructional strategies to engage students in inquiry thinking, and pursues learning to advance professional practice.

E-Environment (DM4)

Uses classroom management strategies to create physically and emotionally safe environments and encourage cooperative interaction among students.

R-Reflective (DM5)

Actively seeks learning experiences as sources of reflection and uses data to reflect and adapt planning and practice.

T-Teaching Dispositions (DM6)

Demonstrates professional teaching dispositions which include; (a) professional relationships and appearance; (b) participation in learning communities; and (c) legal, moral, and ethical conduct with a focus on acceptance and attention to student's educational needs.

Program Standards: D.E.S.E.R.T. (DM) http://new.dixie.edu/education/program_philosophy.php

Teacher Accreditation Education Council (TEAC) <http://www.teac.org/accreditation/goals/index.asp>

Utah Effective Teaching Standards http://www.schools.utah.gov/cert/DOCS/Educator-Effectiveness-Project/Teacher-and-Leader-Standards/TS_Full_Document-9-4-11.aspx

Interstate Teacher Assessment and Support Consortium (InTASC)

http://www.ccsso.org/Resources/Publications/InTASC_Model_Core_Teaching_Standards_A_Resource_for_State_Dialogue_%28April_2011%29.html

Date & Time of Final Exam

The final exam will be given on Monday, April 28 at 5:00 p.m Snow Building: Room 147.

As a student at DSU you have access to several helpful resources:

Student Information Link <http://new.dixie.edu/reg/syllabus>

Disability Resource Center/ Statement Students with medical, psychological, learning or other disabilities desiring reasonable academic adjustment, accommodations, or auxiliary aids to be successful in this class will need to contact the DISABILITY RESOURCE CENTER Coordinator for eligibility determination. Proper documentation of impairment is required in order to receive services or accommodations. DRC is located at the North Plaza Building. Visit or call 652-7516 to schedule an appointment to discuss the process. DRC Coordinator determines eligibility for and authorizes the provision of services.

Academic Honesty: As stated in the DSU Student Handbook; “Academic dishonesty in any form will not be tolerated at Dixie State University (Academic Discipline Policy, 3.34)” including cheating, and plagiarism. These acts of academic dishonesty are strictly prohibited.

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Cell Phones: Need to be turned off during class. If you have an emergency, please see me prior to class.

- Laptop computers & tablets may be used in class for class work only.

Instructure Canvas: This class will utilize the CANVAS tool provided by DSU Computing. CANVAS can be access from the website <https://canvas.dixie.edu/>. Online tutorials for CANVAS can be found at <http://guides.instructure.com/>.

General Policy: You must begin to think like a teacher instead as a student. Therefore, it is imperative that you exhibit professional teaching standards in critical thinking, honesty, integrity, appearance, respectfulness, attendance, completed assignments, responsibility for group assignments, participation, etc.

Disruptive Behavior: DSU disruptive behavior policy states, “Teachers at Dixie State University have the right to aggressively manage the classroom environment to ensure an effective learning climate. Toward this end, teachers may dismiss and remove disruptive students from individual class activities. If a student’s behavior continues to disrupt class activities, the teacher may dismiss and remove disruptive students from their courses.”

Tutoring	Writing Center	Testing Center	Computer Center	Library
Tutoring services are provided for all registered DSU students and is available for all subjects. Located at the Jeffery R. Holland Centennial Commons Building. Room 433. www.dixie.edu/tutoring	The writing center is in the Jeffery R. Holland Centennial Commons Building. Room 421. The online writing center can be accessed at: owl@dixie.edu (English Dept. Writing Center)	The hours are posted online at http://dixie.edu/testing Location: North-East of North Plaza Bldg	The Smith Computer Center is available for students who need technology services to complete homework assignments and research for any course on campus. Check at the facility for time schedule. Location: Avenna Center	DSU Library at the Jeffrey R. Holland Centennial Commons can be accessed online at www.dixie.edu Contact education liaison, Ms. Linda Jones (ljones@dixie.edu) for assistance.

Grading Scale

This course is graded using a standards-based or criterion-referenced approach. The total points possible is divided by the total points earned to get a final percentage. The grade breakdown is as follows:

A = 100-95	B = 86-84	C = 76-74	D = 66-64
A- = 94-90	B- = 83-80	C- = 73-70	D- = 63-60
B+ = 89-87	C+ = 79-77	D+ = 69-67	F = Below 60

Check scores and grades: <https://canvas.dixie.edu>

Instructors Policy on Late Assignments, Missed Exams, and Unexcused Absences

- **Attendance and Participation:** The design of this course makes it necessary for students to *fully* participate in classroom discussions, guest presentations and cooperative structures. Thus, attendance and participation are required for this course. Appropriate documentation will be required for missing class.
- **Assignments** are due on specific dates. Assignments should reflect high levels of thinking, analysis, and application. .
- **Make-up Work:** Students that miss class for legitimate reasons may make up missed assignments. The following are considered legitimate reasons for missing class: DSU sponsored event (must provide written documentation), illness (must provide written documentation from a valid physician), death of an immediate family member (must provide written documentation). If the professor excuses an absence, the student has until the beginning of the next class to turn in the assignment.

Semester Calendar: <http://www.dixie.edu/reg/spring2014.html>

Date & Time of Final Exam: Monday, April 28 5-7 p.m. Room 147

Assignments & Descriptions

Class Assignments	Possible Points
1. Professionalism: This is the time to develop your professional habits. Being present, on time, on task, and respectful are part of professional behaviors.	65
2. Personal Mathematics History: Write a 500 word paper reflecting on your own history in learning and using math, giving specific examples and experiences. Use those reflections to analyze your current attitudes toward learning and teaching math. See rubric in Canvas.	40
3. Weekly Chapter Quizzes: Administered as take home quizzes. 10 points each quiz	90
4. Journal Articles: You will read and discuss 2 separate journal articles. Rubrics in Canvas.	40 each
5. Basic Skills Test: You will take a basic math skills test in class. Details to be provided.	40
6. Lesson Plan and Analysis Paper: Along with your practicum teacher, you will plan a math lesson in your practicum classroom based upon math core objectives. Details and scoring rubric in Canvas.	60

7. Literature & Math Project Scoring Rubric and Instructions on Canvas	40
8. Practicum Scores: Your Practicum Observations Grades will comprise approximately 20% of your grade in this course.	120 (approx.)
9. Final Exam: Take home and in-class portions. Details to follow.	100
Total	Approximately 635 points

Weekly Schedule

Date	Start	Topics	Reading Assignment (<i>Prior</i> to Class meeting)	Written Assignments Due Dates
Monday Jan. 6	4:30	Course Introduction Historical Math Instruction	Syllabus	
Jan. 13	4:30	Teaching Mathematics: Influences and Direction	Chapter 1	Chapter 1 Quiz
Jan. 20	xx	No class. Civil Rights Day	xx	xx
Jan. 27 *	3:30	Learning and Teaching Mathematics	Chapter 2	*Chapter 2 Quiz * Assignment # 2 Personal History
Feb. 3	4:30	Developing Mathematical Thinking and Problem Solving Skill	Chapter 3	* Chapter 3 Quiz * Basic Skills Test (in class)
Feb. 10 *	3:30	Developing Understanding of Numeracy	Chapter 6	Chapter 6 Quiz
Feb. 17	xx	No class. President's Day	xx	xx
Feb. 24	4:30	Developing Measurement Skills	Chapter 15	*Chapter 15 * Journal Article #1
March 3 *	3:30	Whole Numbers Operations and Facts	Chapters 7 & Chapter 8	Chapters 7 & 8 Quiz
March 10	xx	No class. Spring Break	xx	xx
March 17	4:30	Developing Fraction Concepts	Chapter 10	* Journal Article #2 *Chapter 10 Quiz
March 24 *	3:30	Fraction Computation	Chapter 11	Chapter 11 Quiz
March 31	4:30	Developing Decimal Concepts and Computations	Chapter 12	* Assignment # 6 Lesson Plans *Chapter 12 Quiz
April 7 *	3:30	Developing Geometric Thinking and Understanding	Chapter 14	Chapter 14 Quiz
April 14	4:30	Developing Algebraic Thinking Literature Projects	Chapter 17	* Assignment #7 Literature and Math Project *Chapter 17 Quiz
April 21	4:30	Literature Projects & Test Prep		
April 28		Final Exam 5:00 p.m.		

This Syllabus is tentative; students are responsible for any changes announced in class.