SYLLABUS SPRING SEMESTER 2015
Math 2020
Wednesday 5:15 - 7:45
MATH FOR ELEMENTARY TEACHERS II

Instructor: Kris Cunningham
Voice Mail: 673-3553 ext 5172 (District Office) or 620-0441 ext 3251 (DMS)
                     435-862-6509 (cell phone)
E-mail: kris.cunningham@washk12.org (best way to get me)
Office: Dixie Middle School room 113 or District Office
Office Hours: By appointment

Required Text: *A Problem Solving Approach to Mathematics for Elementary Teachers 11th Edition* by Billstein, Libesking, and Lott. Cost: Approximately $110.00 The book is used for the entire 2010/2020 series. We will be using the e-book version of this book.

Optional Text: Student solution manual that is helpful. Another useful resource is *Math On Call* by Great Source. Both can be purchased from DSU Bookstore or on Amazon.

Class Description: This class is the second of a two-semester sequence in mathematics that is appropriate to the needs of elementary and middle school teachers. Topics include: problem solving, sets, numeration systems, whole numbers, algorithms of arithmetic, number theory, rational numbers, geometry, algebra, and decimals. Both classes in the sequence are required for prospective elementary school teachers.

Class Prerequisites:Math 1050/1050E, or the equivalent. Grade of C or better in Math 2010 in order to take Math 2020.

Class Purpose: This class is *not* designed to teach you fundamental skills in elementary math; it presumes prior competency in 'doing' grade-school math. Rather, this class examines the theory (the 'why') behind the 'how' of elementary math. The content and processes of mathematics will be presented in a logically sound approach in order to help you:
                     • Learn to view mathematics as fascinating and stimulating activity that provides skills, insights, and modes of thinking that are essential to modern life.
                     • Become a more confident problem solver, who is able to think critically and creatively in a variety of quantitative, spatial, and logical situations.
                     • Become a more accomplished communicator with a capacity to construct well-reasoned explanations of mathematical algorithms.
                     • See the connections between mathematics and other subjects in real-world applications.
                     • Learn the foundations necessary to build adequate instructional opportunities for mathematical students across grades K-8.
                     • Become a more reflective student and prospective teacher.

Class Objectives: All mathematics classes at Dixie State University will:
• Require students to perform mathematical processes including fractions, percentages, decimals, proportions/ratios, algebraic equations, and/or calculus techniques.
• Provide students wih application problems that use a variety of methods including arithmetical, algebraic, and geometric methods.
• Challenge students to make inferences from mathematical models that include formulas, graphs, and tables.
• Provide students with real-life applications that use a variety of mathematical functions.

Upon successful completion of Math 2020, a student will demonstrate the ability to:

• Identify and apply a sound problem solving process to a variety of mathematical problems.
• Describe and apply a variety of problem solving strategies to individual problems.
• Identify and apply instructional algorithms to basic arithmetic operations.
• Demonstrate elementary arithmetic algorithms using manipulatives that include: mats, strips, units, sets, blocks, and bars.

Policies and Procedures:
• **Attendance and Participation:** You are expected to attend class and to participate in all the class activities. Tardiness and unexcused absences may result in the loss of points.
• **Hours of lecture/activities each week:** 3 hours
• **Plagiarism:** You cheat, you fail

Accommodation for Special Populations: "Proper documentation of a disability is required in order to receive services or accommodations. Any student eligible for and requesting reasonable academic accommodations due to a disability must provide a letter of accommodation to their professor from the Disability Resource Center within the first two weeks of the beginning of classes. Please contact the Center on the Main Campus to follow through with the documentation process. Go to www.dixie.edu for more information or call 652-7516.

1) Completing homework on each chapter is necessary in order for you to fully explore the subject being discussed. Homework assignments are to be completed by the first class period after they are assigned. NO LATE WORK WILL BE ACCEPTED. Homework assignments should be neat and orderly. All answers should be validated with the proper work (i.e., show your when appropriate). Without supporting work, the assignment will be considered incomplete.

2) You are to keep a **Math Journal** that will be worth 80 points. Your journal will be in a 3-ring notebook (at least 2") with 5 dividers. The 5 dividers will be labeled: Articles, Homework, Notes/Vocabulary, Reflections, and Masters.

3) There will be 2 or 3 exams on combined chapters. Information will be discussed in class on concepts to be tested and points possible.

4) The final will be comprehensive (Chapters 8 - 14). Information will be discussed in class on concepts to be tested and points possible.

5) **Literature/Math Connection Project:** The project will include a class presentation (10 minutes). You will select a children's story/book and use it as the basis of a math lesson. You will provide a written handout for each class member that will include: 1) The book's information, including author's name, ISBN number, and a brief summary. 2) The appropriate age and grade level of the book and your activity 3) The connection to NCTM Standards and Utah Core Standards 4) Description and purpose of your activity, with appropriate props. An example of this project will be given to you in class. DO NOT EXCEED THE TIME LIMIT OF 10 MINUTES OR YOU WILL BE CUT OFF AND YOUR GRADE FOR THE PRESENTATION WILL GO DOWN SIGNIFICANTLY.

6) The total point distribution will be approximately 1000 points.

Grading Policy:

Grades will be based on the ratio of earned points to possible points. The points are divided into the following categories:

Homework	50 points
Professional Articles	30 points
(I will give articles to you)	
Journal	80 points
Chapter Reflections	35 points
Participation/Attendance	30 points
Literature Project	100 points (failure to present, drops grade 1 full letter grade)
Exam 1 (Chap 8, 9, 10)	200 points
Exam 2 (Chap 11, 12, 13)	200 points
Exam 3 (Final)	200 points (failure to take, drops grade 1 full letter grade)

Grade Scale:

Grades will be assigned by a total percentage earned divided by the total possible. The usual assignment of grades by percentage is as follows:

100 - 94	A	79 - 77	C+
93 - 90	A-	76 - 74	C
89 - 87	B+	73 - 70	C-
88 - 84	B	69 - 60	D
83 - 80	B-	Below 59	F

I reserve the right to make changes to this syllabus if I think that such changes will enhance your learning more effectively than the original plan.

Additional Materials needed for Math 2020: colored pencils, scissors, ruler, and glue stick.

Professional Article   Review Requirements

You will read 3 Articles that will be given to you in class. For each article review you will:

•Read the article
•Make a title page with article title, your name, course name, and date (centered horizontally and vertically)
•Write a review that is 1.5 to 2 pages, is typed and double-spaced, answer the questions: "What I Learned" and "How I'll use this information in my classroom"

All students will read **"Ten Big Math Ideas!"** by Marilyn Burns. This article review is due on Wednesday, January 21, 2015.

For the second article, all students will read **"RTI in the Math Classroom".** This article review

is due on Wednesday, _____.

For the third article, all students will read another article given to you in class. This article

review is due on Wednesday, _____.

You will put each article that you read and review in the 'Article' section of your journal. After I grade your 1.5 - 2 page review for each article, you will also put the review in your journal **after** the appropriate article.

(Note: Each article for Math 2020 was taken from the National Council of teachers of Mathematics Journals or from Educational Leadership).

RUBRIC
Math/Literature Project

Name:_____ Date:_____

Grade Level:_____ Book Title:_____

Beginning Time:_____ Ending Time:_____

Professor Grade:_____ Peers Grade:_____ **FINAL GRADE**:_____

DESCRIPTION	EXCELLENT	VERY GOOD	GOOD	OKAY	FAIR
Speaks audibly and clearly	5	4	3	2	1
Content applicable to grade level	5	4	3	2	1
Makes eye contact with audience	5	4	3	2	1
Reflects adequate level of creativity	5	4	3	2	1
Uses class time well, including starting and stopping on time.	5	4	3	2	1
Objective is well-stated	5	4	3	2	1
Math concepts and literature connection is effective.	5	4	3	2	1
Presentation follows a logical scope and sequence	5	4	3	2	1
Instructions are clear	5	4	3	2	1
Conclusion/Summary is effective	5	4	3	2	1
Uses well chosen examples	5	4	3	2	1
Presentation is well-organized	5	4	3	2	1
Written lesson plan follows format	5	4	3	2	1

COMMENTS:

Revised January 2015