

MATH 2118: Math for Elementary and Middle School Teachers III

Instructor

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Class Details

Monday/Wednesday Class Time: 4:30-5:45pm ZOOM ID: 984 0310 1621 Passcode: sec501b

Tutoring Hours

M-Th 9am –12 pm Or by Appointment ZOOM ID: 947 3281 7694



"Happy Dog" - Nathalie Miebach

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Contents

Course Description

This course covers algebra from the viewpoint of the elementary school curriculum, emphasizing proportional and linear relationships. It includes operations on fractions (nonnegative rational numbers). Also included: data analysis and other topics with connections to the elementary curriculum. Problem-solving is emphasized throughout. (3 Credit Hours).



<u>Prerequisites/placement:</u> A grade of C or better in MATH 111 or Math 1110 or Math 1118 and one of the options below:

(A). A grade of C or better in Math 1215X, (B). Next Gen Accuplacer Quantitative Reasoning score of 250, (C). ACT score of 19

Course Outcomes

Goal 1: Understand data analysis from the viewpoint of the elementary school curriculum, such as making and interpreting dot plots, pictographs, and bar graphs.

SLO 1: By the end of the course, students will display, analyze, and interpret data.

Goal 2: Know how to use appropriate vocabulary, notation, and reasoning in valid mathematical explanations.

SLO 2: By the end of the course, students will construct valid mathematical explanations.

Goal 3: Understand problem-solving in the context of mathematical applications. **SLO 3:** By the end of the course, students will be able to model and solve various mathematical applications using various approaches relevant to the K-8 curriculum.

Goal 4: Understand the interconnectedness of elementary mathematical concepts and relate these concepts to application problems.

SLO 4: By the end of the course, students will describe real-world situations that model expressions and equations.

Goal 5: Understand algebraic concepts from the viewpoint of the elementary school curriculum.SLO 5: By the end of the course, students will understand the algebraic concepts of the K-8 curriculum.



Classroom Policies

Attendance / Notes / Participation

Attendance is part of your overall grade. You will start the course with full attendance points. To maintain points, you are expected to be on ZOOM for each class to discuss the problems from the sections. Each student starts with 50 attendance points. Attendance is taken at the beginning of class. Six attendance points are deducted for each unexcused absence; Three attendance points for tardiness. Absences: If you know ahead of time you will miss a class, send me an email indicating the absence date.

Homework

Homework is assigned nearly every week at the end of the week. The purpose of the homework is to determine if you understand the concepts correctly. I will not grade illegible homework. Each homework assignment is worth 25 points. Late homework may be graded. If graded, it receives a 20% penalty.

Group Assignments

There will be 1 or 2 small assignments to be completed in a group. Groups will be between two and three students. These assignments will further develop your conceptual understanding of the topics presented in the course. **You must be present to participate and receive any credit**.



Exams/Final Exam

Two exams are given during the semester. Expect to show your work in each exam clearly. All of the tests (including the final exam) will be a paper/pencil test where students are expected to show all work to get full credit. If you cannot take a test, you must notify me in advance of the scheduled examination. I will determine if and when a make-up test is to be administered. The final exam in this class is worth 100 points. The sections covered will be communicated as we near the end of the semester. Permission to take the final exam other than scheduled occurs only under extenuating circumstances as approved by me. Emergencies will be considered on an individual basis.

Netiquette

One of the overriding principles in online conversations is to "craft your responses effectively." It is sometimes difficult to remember that real people are reading posted messages. It is especially true of online communication where others do not have the opportunity to see body language or hear the tone of voice; therefore, misunderstandings are more likely.

Please, follow these guidelines in *all* of your online responses and discussion postings.

(A) Honor everyone's right to an opinion. (B) Respect the right of each person to disagree with others. (C) Respond honestly but thoughtfully and respectfully; use language that others will not consider foul or abusive. You may also use emoticons to convey a lighter tone. (D) Respect your privacy and the privacy of others by not revealing information that you deem private and which you feel might embarrass you or others. (E) Be prepared to clarify statements that might be misunderstood or misinterpreted by others.

Classroom Policies (cont'd)

A Special Note about Anger

- Do not send messages that you have written when you are angry, even anonymous ones. In the online world, angry messages are known as "flaming" and are considered bad behavior. Venting and flaming are two different things. It is possible to vent without becoming "ugly." Stick to the facts of what is causing you frustration.
- Do not send messages written in the upper case; this is the visual equivalent of SHOUTING. It is considered aggressive and is regarded as bad behavior. If you ever feel like shouting a message, take a deep breath, and wait until you have calmed down before responding. Then, respond calmly and factually.

Grading Distribution & Scale

Attendance	50 points
Homework	200 points
Group Assignments	50 points
Exams	200 points
Final Exam	100 points
Total	600 points

GRADING SCALE: Students in this course will receive the following grades:

- A [90,100]
- B [80,90)
- C [70,80)
- D [60,70)
- F [0,60)

Course Materials

Textbook(s):

 Bassarear, T., and Moss, M. (2016). Mathematics for elementary school teachers., 6th edition. Cengage Learning. Boston, MA.

Student Resources



Blaise Pascal 1623-1662

The French philosopher and scientist, was one of the greatest and most influential mathematicians of all time. He was also an expert in hydrostatics, an inventor, and a well-versed religious philosopher. In 1654, Pascal began corresponding with mathematician **Pierre de Fermat**. He conducted experiments with dice and discovered that there was a fixed likelihood of a particular outcome. This was the beginning of the field of probability. Fermat and Pascal are today recognized as the co-founders of probability theory.

www.famousscientists.org/blaise-pascal/

- Tutoring Hours: See my tutoring hours listed at the beginning of this syllabus.
- Form online study groups: You may work together with other members of our class.
- Free Tutoring: <u>https://valencia.unm.edu/campus-resources/the-learning-center/learning-center.html</u>
- Send an email to <u>https://esurvey.unm.edu/opinio/s?s=131505</u> to schedule a tutoring appointment

University Policies

Equal Access: By University Policy 2310 and the Americans with Disabilities Act (ADA), academic accommodations may be made for any student who notifies the instructor of the need for accommodation. You must take the initiative to bring such needs to the instructor's attention, as I am not legally permitted to inquire. Students who may require assistance in emergency evacuations should contact the instructor to follow the most appropriate procedures. Contact Accessibility Resource Center at 277-3506 for additional information.



If you need an accommodation based on how course requirement interacts with the impact of a disability, you should contact me to arrange an appointment as soon as possible. We can discuss the course format and requirements at the appointment, anticipate the need for adjustments, and explore potential accommodations. I rely on the Disability Services Office for assistance in developing strategies and verifying accommodation needs. If you have not previously contacted them, I encourage you to do so.

If you are a Valencia campus student, contact Equal Access Services at Valencia Campus at (505)925-8560 or <u>Valencia Student Services</u>. If you are a main campus student, you can receive documentation from the main campus Accessibility Resource Center. I will not guarantee accommodation without the appropriate documentation.

Copyright Issues

All materials in this course fall under copyright laws and should not be downloaded, distributed, or used by students for any purpose outside this course.

The UNM Copyright Guide has additional helpful information on this topic. https://copyright.unm.edu

Accessibility Statements

<u>Blackboard's Accessibility statement https://www.blackboard.com/blackboard-accessibility-commitment</u> <u>Microsoft's Accessibility statement https://www.microsoft.com/en-us/accessibility/</u>

Academic Integrity

Having academic integrity is paramount to your success in any class. Plagiarism or cheating is not tolerated. Any instance of this will result in a grade of zero for that assignment. Here is the link to the UNM Academic Dishonesty Policy: https://pathfinder.unm.edu/campus-policies/academic-dishonesty.html and student code of conduct: https://pathfinder.unm.edu/code-of-conduct.html

Any student judged to have engaged in academic Dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.

Academic Dishonesty is defined as:

"Academic dishonesty" includes, but is not limited to, Dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University, and nondisclosure or misrepresentation in filling out applications or other University records.

Course Outline

The course outline may be modified as the semester progresses.

Week	Dates (M/W)	Sections / Topics
1	1/18-1/20	MLK Day 1/18 (No Class) <u>UNIT 1: Measurement and Data</u> Bassarear 9.1: Systems of Measurement
2	1/25-1/27	Bassarear 9.2 Understanding perimeter, circumference, and area of a rectangle Bassarear 9.2: Understanding area formulas (triangle, parallelogram, trapezoid, cir- cle), area problem solving
	1/29 F	Last day to add a course (5pm)
3	2/1-2/3	Bassarear 7.1: Collecting and analyzing categorical data (refining questions, types of representations, elementary analysis: take-apart, put-together, compare)
	2/5 F	Last day to drop a course without a grade (5pm)
4	2/8-2/10	Bassarear 7.1: Representing data (making bar plots, pie charts, dot/line plots, histo- grams) and data analysis, common mistakes. Bassarear 7.1: Measures of Center
5	2/15-2/17	Catch-up and Review Exam 1
6	2/22-2/24	UNIT 2: Operations on Fractions and Decimals Bassarear 4.3: Understanding fraction operations (addition and subtraction)
7	3/1-3/3	Bassarear 4.3: Understanding fraction operations (multiplication and division)
8	3/8-3/10	Fierro 6.1: Understanding decimal operations: addition/ subtraction
		3/14 - 3/21 Spring Break
9	3/22-3/24	Fierro 6.1: Understanding decimal operations: Multiplication and division
10	3/29-3/31	Catch-up and Review Exam #2
11	4/5-4/7	Unit 3: Problem Solving: Ratio and Proportion, Algebra, Mixed Operations Bassarear 4.3 and Fierro 6.1: Mixed Fraction and Decimal problem solving, estimation and number sense
12	4/12-4/14	Bassarear 6.2: Equal sign and equivalence Bassarear 6.1: Patterns Bassarear 6.4: Arithmetic and Geometric Sequences
13	4/19-4/21	Fierro 5.4: Ratio and proportion (tables, diagrams, graphs)
	4/16 F	Last day to drop without Dean's permission (5pm)
14	4/26-4/28	Supplement: Elementary solutions of algebra problems
15	5/3-5/5	Review Week
16	5/10	Final Exam 5/10 4-6 pm