

MATH 1118: Math for Elementary and Middle School Teachers I

Instructor

Dr. Ariel Ramirez

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Office: LRC 172

Elaine Clark

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Class Details

Monday/Wednesday

Class Time: 4:30-5:45pm

Room: Zoom Lecture

Zoom ID: 959 7497 2517

Passcode: sec.501

Tutoring Hours

M/W 10:00 am -12:00 pm

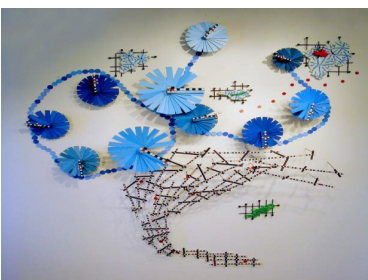
unm.zoom.us

<https://unm.zoom.us/j/91879084949>

T/Th 2:00 pm—3:00 pm

LRC 172

Or by appointment



"Happy Dog" - Nathalie Miebach

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Course Description

This course offers an in-depth look rational numbers, arithmetic operations (addition, subtraction, multiplication, and division), and basic geometric concepts. Problem solving is emphasized throughout. (3 Credit Hours).

Prerequisite: Math 1130 or 1215 or 1220 or 1230 or 1240 or 1350 or 1430 or 1512 or FYEX 1010 or ACT Math =>20 or SAT Math Section =>520 or AC-CUPLACER Next-Generation QRAS =>255.



Get To Know Your Professor

Dr. Ariel Ramirez is an Assistant Professor of Mathematics at UNM-Valencia. He has taught college-level mathematics both at the undergraduate and graduate levels since 2000. He grew up in Chicago, IL. He has a Bachelor's degree in Astronomy from The University of Illinois at Urbana-Champaign, a Master's degree in Mathematics from the University of Illinois at Chicago, and a Ph.D. in Mathematics Education from Illinois State University.

Course Outcomes

Goal 1: Represent numbers and operations with models.

SLO 1: Use visual models, including physical objects, drawings of counts, lengths, and area, number lines, and symbols to represent numbers and operations, and flexibly move between representations.

SLO 2: Explain the relationship between contexts and the appropriate mathematical operations.

Goal 2: Identify and use the deeper structures of arithmetic.

SLO 1: Analyze and perform multiple methods for doing addition, subtraction, multiplication, and division.

SLO 2: Analyze student work, assess the validity of arguments, and identify mathematical misconceptions in mistakes.

SLO 3: Describe and use the relationships between operations to represent and solve problems.

SLO4: Describe and use strategies for mental computation and estimation using fact families, the structure of base-ten numbers, and the arithmetic properties.

Course Outcomes (continued)

Goal 3: Explain concepts in arithmetic.

SLO 1: Explain procedures for doing addition, subtraction, multiplication, and division with base-10 numbers using correct mathematical terminology and notation.

SLO 3: Explain why the commutative and associative properties of addition and multiplication and the distributive property of multiplication over addition make sense.

SLO 4: Explain how estimation and rounding work using models and correct mathematical terminology and notation.

SLO 4: By the end of the course, students will be able to communicate how various mathematical concepts are interconnected, and describe the application of mathematics in a diverse range of fields.

Goal 4: Explain concepts in geometry.

SLO 1: Describe, using appropriate vocabulary and representations, how points, lines, and angles relate to each other and to applications in the real world.

SLO 2: Explain different ways to classify two-dimensional shapes based on their properties.

Course Materials & Requirements

All the information on the course, including syllabus and assignments, is located in UNM-Learn (Blackboard). See learn.unm.edu

Textbook:

“Mathematics for Elementary Teachers with Activities,” 5th edition, by Sybilla Beckmann

Required: Appropriate MyMathLab (MML) access code (do not purchase a generic code, in this case, the code is book specific). The 18-week access code (ISBN-13: 9780135959664) is suitable if you are only taking this class. The 24-month access code (ISBN-13: 9780134423272) is suitable for taking both courses (Math 1118 & Math 2118). Go to www.mymathlab.com to get started. From here, either register as a student or sign in to your current account. The MyMathLab Course ID is **ramirez90192**.

You can also purchase directly from: <https://www.pearson.com/store/p/mathematics-for-elementary-teachers-with-activities/P100002443609/9780134423272>

Technical Requirements: *Computer*

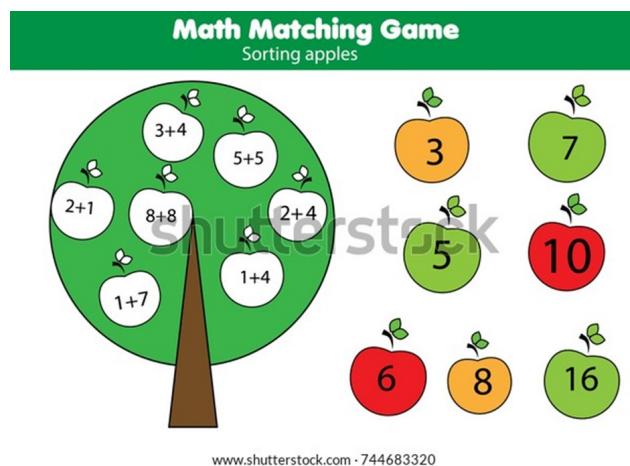
A high-speed Internet connection is highly recommended. Supported browsers include Chrome, Edge, Firefox, Safari, and Internet Explorer.

Any computer capable of running a recently updated web browser should be sufficient to access your online course. However, remember that processor speed, amount of RAM, and Internet connection speed can *greatly* affect performance.

Some programs that use mathematics will not work well on mobile devices such as smartphones or tablets.

Microsoft Office products are available free for all UNM students (more information on the UNM IT Software Distribution and Downloads page)

Please update your contact information in LoboWeb: MyUNM. When you log into MyUNM, Enter LoboWeb. Click on the Personal Information link to make sure your contact information is up to date.



Classroom Policies

Attendance / Participation (10%)

You are expected to be on time for each class, stay the entire class, have the necessary course materials on hand, and participate in the lecture or group activities to receive full credit for attendance each day.

Absences: If you know ahead of time you will miss a class, send me an email indicating the date of the absence to receive an excused absence.

Arrange before the next class meeting to get notes from a classmate. The student bears full responsibility for the material and information covered in class.

Each student starts with 100 attendance points. Attendance is taken at the **beginning** of class. Seven attendance points are deducted for each unexcused absence; Four attendance points for tardiness.

The expectation in this class is that you will have your video on. If you have a compelling reason for wanting to keep your video off, please let me know privately. Also, you should dress for the class as if you were attending in person.

Online Homework (30%)

Homework is assigned nearly every week based on the course outline. . Please complete assignments in MyMathLab no later than the indicated date in MML. **Each homework assignment is worth 25 points.**

Written Homework (10%)

Each section will have a small separate written homework and must be completed as indicated on the outline. The purpose of the written 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 has a week's grace period and will receive a 20% penalty.**

Group Assignments (10%)

There will be two 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 (20%/20%)

Two exams will be given during the semester. Students are expected to show their work clearly.

All of the tests (including the final exam) will be online and will follow a specific procedure. Information on this will be disseminated later in the course. All students are expected to show all work to get full credit.

If you are unable to take a test, you must notify me in advance of the scheduled test. We will determine when a make-up test is to be administered.

The final exam in this class is worth 20%. 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. Emergency situations will be considered on an individual basis.



abogallery.com - Internet's biggest art collection

"Gorge Improvisation" - Kandinsky 1914

Classroom Policies (cont'd)

Grading Distribution & Scale

Attendance	10%
Homework (Online)	30%
Homework (Written)	10%
Group Assignments	10%
Exams	20%
<u>Final Exam</u>	<u>20%</u>
Total	100%

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

A	[90 – 100%]
B	[80 – 90%]
C	[70 – 79%]
D	[60 – 70%]
F	[0 – 60%]



The Mayans Number System

The Mayan number system dates back to the fourth century and was approximately 1,000 years more advanced than the Europeans of that time. This system is unique to our current decimal system, which has a base 10, in that the Mayans used a vigesimal system, which had a base 20. This system is believed to have been used because, since the Mayans lived in such a warm climate and there was rarely a need to wear shoes, 20 was the total number of fingers and toes, thus making the system workable. Therefore two important markers in this system are 20, which relates to the fingers and toes, and five, which relates to the number of digits on one hand or foot.

The Mayans were also the first to symbolize the concept of nothing (or zero). The most common symbol was that of a shell () but there were several other symbols (e.g. a head). It is interesting to learn that with all of the great mathematicians and scientists that were around in ancient Greece and Rome, it was the Mayan Indians who independently came up with this symbol which usually meant completion as opposed to zero or nothing.

<http://www.math.wichita.edu/history/topics/num-sys.html>

Student Resources

If you are struggling in this course, do not be afraid to ask for help!

- Ask My Instructor: Please use the Ask My Instructor button in MyMathLab. This button is available in the computational assignments and the quizzes and sends a message to my email with a link to the question. Do not just send the link, be specific about the problem you are struggling with.
- 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: <http://valencia.unm.edu/campus-resources/the-learning-center/learning-center.html>

University Policies

Accommodations

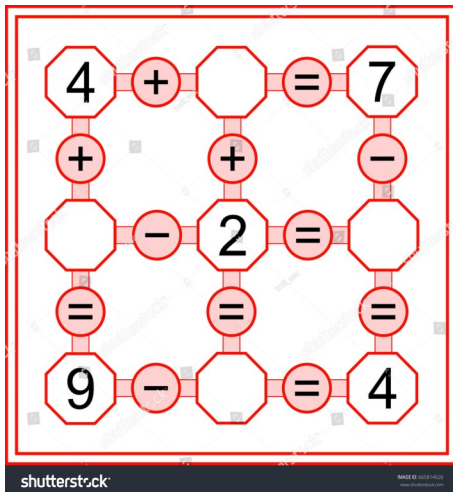
In accordance with University Policy 2310 and the Americans with Disabilities Act (ADA), academic accommodations may be made for any student who notifies the instructor of the need for an accommodation. It is imperative that you take the initiative to bring such needs to the instructor's attention, as I am not legally permitted to inquire. Students who may require assistance in emergency evacuations should contact the instructor as to the most appropriate procedures to follow. Contact [Accessibility Resource Center](#) at 277-3506 or arcsrvs@unm.edu for additional information.

UNM is committed to providing courses that are inclusive and accessible for all participants. As your instructor, it is my objective to facilitate an accessible classroom setting, in which students have full access and opportunity.

University Policies (continued)

Accommodations

If you are experiencing physical or academic barriers, or concerns related to mental health, physical health and/or COVID-19, please consult with me after class, via email/phone or during office hours. You are also encouraged to contact [Accessibility Resource Center](#) at arcsrvs@unm.edu or by phone 277-3506.



If you are a Valencia campus student, contact Equal Access Services at Valencia Campus at (505)925-8560 or [Valencia Student Services](#). 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.

Netiquette and Behavior Expectations

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. This is especially true of online communication where others do not have the opportunity to see body language or hear a tone of voice; therefore, they have a greater possibility of misunderstanding what is meant.

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

(1) Honor everyone’s right to an opinion. (2) Respect the right of each person to disagree with others. (3) 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. (4) 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. (5) Be prepared to clarify statements that might be misunderstood or misinterpreted by others.

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 sounding angry. Stick to the facts of what is causing you frustration.
- Do not send messages that are written all in upper case; this is the visual equivalent of SHOUTING. It is considered aggressive and is considered 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.

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 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.

Title IX Reporting Obligations

Our classroom and our university should always be spaces of mutual respect, kindness, and support, without fear of discrimination, harassment, or violence. Should you ever need assistance or have concerns about incidents that violate this principle, please access the resources available to you on campus, especially the LoboRESPECT Advocacy Center and the support services listed on its website (<http://loborespect.unm.edu/>). Please note that, because UNM faculty, TAs, and GAs are considered “responsible employees” by the Department of Education, any disclosure of gender discrimination (including sexual harassment, sexual misconduct, and sexual violence) made to a faculty member, TA, or GA must be reported by that faculty member, TA, or GA to the university’s Title IX coordinator at the [Office of Compliance, Ethics, and Equal Opportunity](#). For more information on the campus policy regarding sexual misconduct, please see: <https://policy.unm.edu/university-policies/2000/2740.html>.

Course Outline (Math 1118: (Fall 2021) *Course outline is subject to change*)

Week	Dates	Sections / Topics	Assignments
1	8/23 - 8/25	Introduction Sections 1.1, 1.2	
2	8/30 - 9/1	Sections 1.3, 1.4	MML & Written homework 1 due
	9/3 9/6	Last day to add a course (5 pm) Labor Day Holiday (Campus closed)	
3	9/8	Section 2.2	MML & Written homework 2 due
	9/10	Last day to drop a course without a grade (5 pm)	
4	9/13 - 9/15	Sections 2.3, 2.4	MML & Written homework 3 due
5	9/20 - 9/22	Section 2.5 Review	MML & Written homework 4 due
6	9/27 - 9/29	Test # 1 Section 3.1	MML & Written homework 5 due
7	10/4 - 10/6	Sections 3.2, 3.3	MML & Written homework 6 due
8	10/11 - 10/13	Sections 3.3, 4.1	
	10/14 - 10/15	Fall Break	
9	10/18 - 10/20	Sections 4.2, 4.3, 4.4	MML & Written homework 7 due
10	10/25 - 10/27	Sections 4.5, 4.6	MML & Written homework 8 due
11	11/1 - 11/3	Review Test #2	MML & Written homework 9 due
12	11/8 - 11/10	Section 6.1, 6.2	
	11/12	Last day to drop without Dean's Permission (5 pm)	
13	11/15 - 11/17	Section 6.3	MML & Written homework 10 due
14	11/22 - 11/24	Sections 10.1, 10.2	MML & Written homework 11 due
	11/25 - 11/26	Thanksgiving Holiday	
15	11/29 - 12/1	Sections 10.3, 10.4	MML & Written homework 12 due
16	12/6 - 12/8	Section 10.4 Review	MML & Written homework 13 due
	12/10	Last day to drop with Dean's permission/change grade mode with form (5 pm)	
17	12/13	Final Exam (4:30—6:30 pm)	

The course outline may be modified as the semester progresses.