

# MATH 1220: College Algebra

## Instructor

**Dr. Ariel Ramirez**

aramirez8@unm.edu

Office: LRC 133

## Class Details

Tuesday/Thursday

Class Time: 10:30—11:45 am

Room: VAAS 124

## Tutoring Hours

T/Th 1—2:30 pm (LRC)

Or by Appointment



## Contents

Course Description	1
Course Outcomes	1
Course Materials & Requirements	1
Classroom Policies	2-3
Grading	3
University Policies	4-6
Student Resources	6
Outline/Outcomes	7-8

## Course Description

The study of equations, functions and graphs, reviewing linear and quadratic functions, and concentrating on polynomial, rational, exponential and logarithmic functions. Emphasizes algebraic problem solving skills and graphical representation of functions.  
(3 Credit Hours).

**Prerequisites:** Math 1215 or (1215X and 1215Y and 1215Z) or ACT Math  $\geq 22$  or SAT Math Section  $\geq 540$  or AC-CUPLACER Next-Generation Advanced Algebra and Functions =239-248. Check with your adviser to make sure you meet the requirements.



## Get To Know Your Professor

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

## Course Outcomes

The course serves as preparation for Math 1240 and Math 1430. In this course, students will build on their knowledge of polynomial, rational, absolute value, radical, exponential and logarithm functions in several contexts. A complete list of the Student Learning Objectives for this course is given at the end of this syllabus.

## Course Materials & Requirements

### Textbook:

"College Algebra," 2nd edition, by Jay Abramson, 2021: OpenStax.org  
ISBN #978-1-951693-41-1

All the information on the course, including syllabus and assignments, is located in Canvas. See [canvas.unm.edu](https://canvas.unm.edu)

## Course Materials & Requirements (continued)



### 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.

Laptops may be available for checkout for the Fall semester from the **UNM-Valencia Library**. Contact the librarians for more information.

### *Technical Support*

- ◆ For UNM Learn Technical Support: (505) 277-0857 (24/7) or use the “Create a Tech Support Ticket” link in your course.
- ◆ For UNM-Valencia IT Support: (505)925-8911
- ◆ For UNM Web Conference Technical Help: (505) 277-0857

## 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.

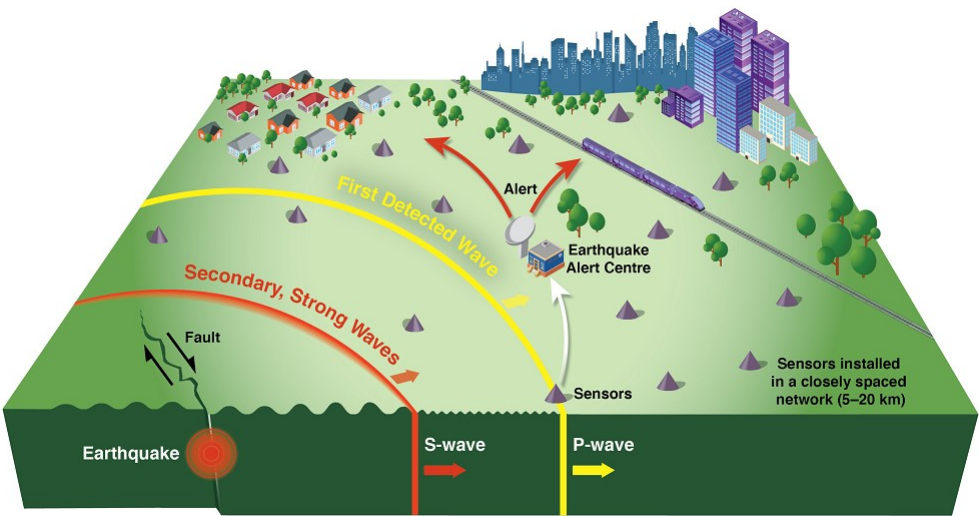
Arrange before the next class meeting to get notes from a classmate. The student bears full responsibility for the material and information covered in class.

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

# Classroom Policies (continued)

## Written Homework (40%)

Each week will have 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.**



## Exam (20%)

There is one midterm exam during the semester given during class. The midterm exam will cover the material from the beginning of the course. If you are ill or an unexpected event happens and cannot make it to the exam, you have one week to make it up. **The final exam will cover all the sections in the course.**

# Grading

## COURSE AVERAGES:

Attendance/Class Participation	10%
Written Homework	40%
Midterm Exam	20%
Cumulative Final Exam	30%
<b>Total</b>	<b>100%</b>

## GRADING SCALE:

### Letter Grade Weighted Average

A+	[98,100]	A	[92,98]	A-	[90,92]
B+	[88,90]	B	[82,88]	B-	[80,82]
C+	[78,80]	C	[72,78]	C-	[70,72]
D+	[68,70]	D	[60,68]		
F	[0,60]				

# University Policies

## COVID-19 Health and Awareness

UNM is a mask friendly, but not a mask-required, community. To be registered or employed at UNM, Students, faculty, and staff must all meet UNM's [Administrative Mandate on Required COVID-19 vaccination](#). If you are experiencing COVID-19 symptoms, please do not come to class. If you have a positive COVID-19 test, please stay home for five days and isolate yourself from others, per the [Centers for Disease Control \(CDC\) guidelines](#). If you need to stay home, please communicate with me via email ([aramirez8@unm.edu](mailto:aramirez8@unm.edu)) or Canvas course messaging; I can work with you to provide alternatives for course participation and completion. UNM faculty and staff know that these are challenging times. Please let us know that you need support so we can connect you to the right re-

sources. Please be aware that UNM will publish information on websites and email about any changes to our public health status and community response.

Support:

[Student Health and Counseling](#) (SHAC) at (505) 277-3136. If you have active respiratory symptoms (e.g., fever, cough, sore throat, etc.) AND need testing for COVID-19; OR If you recently tested positive and may need oral treatment, call SHAC.

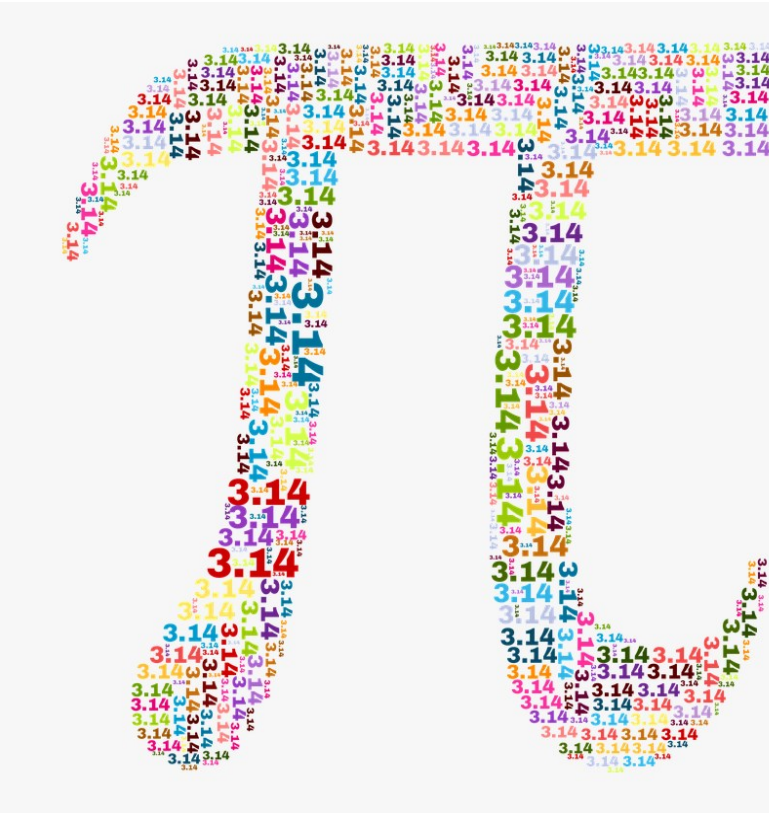
[LoboRESPECT Advocacy Center](#) (505) 277-2911 can offer help with contacting faculty and managing challenges that impact your UNM experience.

## **Accommodations:**

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. If you are experiencing physical or aca-

ademic 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/drop-in hours (I am not legally permitted to inquire about the need for accommodations). We can meet your needs in collaboration with the [UNM Valencia Campus community](#) (505) 925-8910 and/or the Accessibility Resource Center (<https://arc.unm.edu/>) at [arcsrvs@unm.edu](mailto:arcsrvs@unm.edu) or by phone (505) 277-3506.

**Title IX:** Our classroom and 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. 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. For more information on the campus policy regarding sexual misconduct, please see <https://policy.unm.edu/university-policies/2000/2740.html>. **Support:** [LoboRESPECT Advocacy Center](#) and the support services listed on its website, the [Women's Resource Center](#), and the [LGBTQ Resource Center](#) all offer confidential services and reporting.





## University Policies (continued)

**Land Acknowledgement:** Founded in 1889, the University of New Mexico sits on the traditional homelands of the Pueblo of Sandia. The original peoples of New Mexico Pueblo, Navajo, and Apache since time immemorial, have deep connections to the land and have made significant contributions to the broader community statewide. We honor the land itself and those who remain stewards of this land throughout the generations and also acknowledge our committed relationship to Indigenous peoples. We gratefully recognize our history.

Resource: [Division for Equity and Inclusion](#).

**Citizenship and/or Immigration Status:** All students are welcome in this class regardless of citizenship, residency, or immigration status. Your professor will respect your privacy if you choose to disclose your status. As for all students in the class, family emergency-related absences are normally excused with reasonable notice to the professor, as noted in the attendance guidelines above. UNM as an institution has committed to the success of all our students, including members of our undocumented community. The Administration's welcome is found on our website:

<http://undocumented.unm.edu/>.

### 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

[Blackboard's Accessibility statement](#) <https://www.blackboard.com/blackboard-accessibility-commitment>

[Microsoft's Accessibility statement](#) <https://www.microsoft.com/en-us/accessibility/>

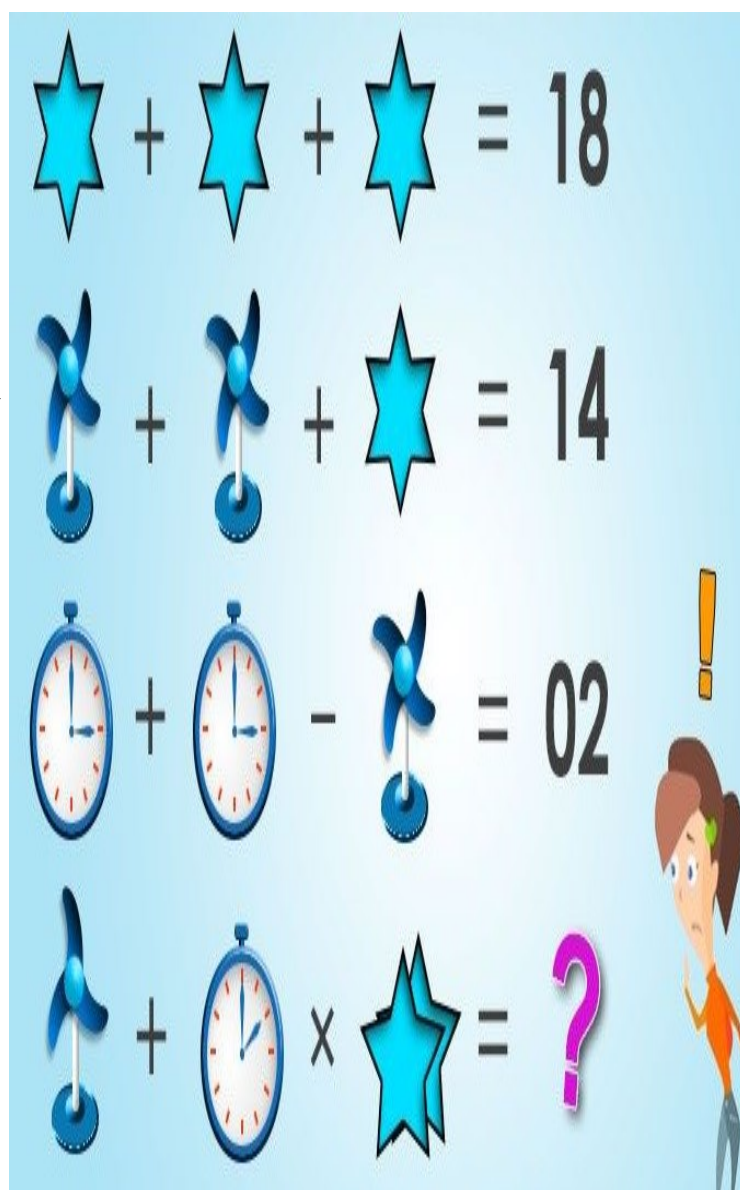
### Academic Integrity

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.

*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.*

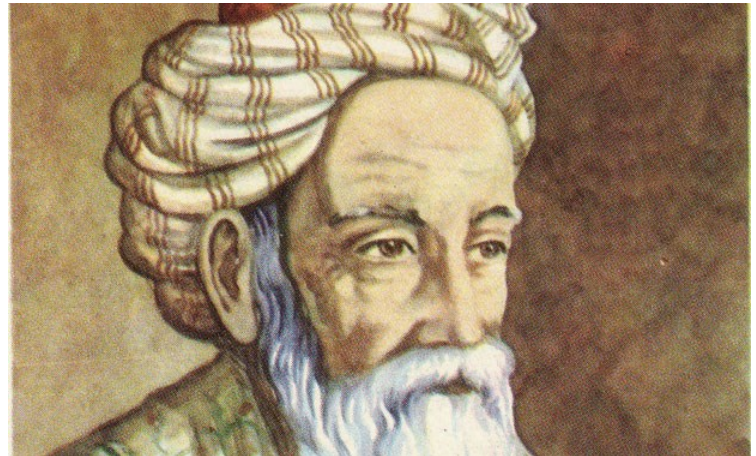


## University Policies (continued)

**Respectful and Responsible Learning:** We all have a shared responsibility for ensuring that learning occurs safely and equitably. UNM has important policies to preserve and protect the academic community, especially policies on student grievances (Faculty Handbook D175 and D176), academic dishonesty (FH D100), and respectful campus (FH C09).

These are in the *Student Pathfinder* (<https://pathfinder.unm.edu>) and the *Faculty Handbook* (<https://handbook.unm.edu>). Please ask for help understanding and avoiding plagiarism or academic dishonesty, which can have very serious consequences.

Support: [Center for Academic Program Support](#) (CAPS). Many students have found that time management workshops can help them meet their goals (consult CAPS website under "services").



*Omar Khayyam 1048-1131*

Khayyam was an astronomer, astrologer, physician, philosopher, and mathematician. In 1070, he published *Treatise on Demonstration of Problems of Algebra and Balancing*. In it he showed that a cubic equation can have more than one solution. He also showed how the intersections of conic sections such as parabolas and circles can be utilized to yield geometric solutions of cubic equations.

[www.famousscientists.org/omar-khayyam/](http://www.famousscientists.org/omar-khayyam/).

**Connecting to Campus and Finding Support:** UNM-Valencia has many resources and centers to help you thrive, [including opportunities to get involved](#), [mental health resources](#), [academic support including tutoring](#), [resource centers](#), free food at [Valencia Campus Food Pantry](#), and [jobs on campus](#). Your advisor, staff at the resource centers, and I can help you find the right opportunities for you.

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

- Office Hours: See my office hours listed at the beginning of this syllabus.
- Form study groups: You may work together with other members of our class.
- Free Tutoring: The Math Center at Valencia campus has free tutoring and open labs. [UNM Valencia Learning Commons \(tutoring\)](#).
- Student Services: There are various services provided in our Student Services Department. See below about equal access. Also, we have a testing center, advising, and career placement available: [Valencia Student Services](#)
- [Center for Academic Program Support](#) (CAPS). Many students have found that time management workshops can help them meet their goals (consult CAPS) website under "services".

**Math 1220: College Algebra (Fall 2022)** (*Course outline is subject to change*)

<u>Week</u>	<b>Dates</b>	<b>Sections / Topics</b>	<b>Assignments</b>
1	8/23-8/25 T/Th	Introduction Review	
2	8/30-9/1 T/Th	Sec. 2.1, 2.3	
	9/2 F 9/5 M	<b>Last day to add a course (5pm) Labor Day 9/5 (No Class)</b>	
3	9/6-9/8 T/Th	Sec. 2.5, 2.6	Homework #1 Due
	9/9 F	<b>Last day to drop a course without a grade (5pm)</b>	
4	9/13-9/15 T/Th	Sec. 2.7, 3.1	Homework #2 Due
5	9/20-9/22 T/Th	Sec. 3.2, 3.3	Homework #3 Due
6	9/27-9/29 T/Th	Sec. 3.4, 3.5	Homework #4 Due
7	10/4-10/6 T/Th	Sec. 3.6 <b>Review</b>	Homework #5 Due
8	10/11 T	<b>Exam #1</b>	
<b>10/13 – 10/14 Fall Break</b>			
9	10/18-10/20 T/Th	Sec. 3.7, 4.1	
10	10/25-10/27 T/Th	Sec. 4.2, 5.1	Homework #6 Due
11	11/1-11/3 T/Th	Sec. 5.2, 5.6	Homework #7 Due
12	11/8-11/10 T/Th	Sec. 6.1, 6.2	Homework #8 Due
	11/11 F	<b>Last day to drop without Dean's Permission (5pm)</b>	
13	11/15-11/17 T/Th	Sec. 6.3, 6.4	Homework #9 Due
14	11/22 T	Sec. 6.5	
		<b>11/24 – 11/25 Thanksgiving Break</b>	
15	11/29-12/1 T/Th	Sec. 6.6	Homework #10 Due
16	12/6-12/8 T/Th	<b>Review</b>	Homework #11 Due
	12/9 F	<b>Last day to drop with Dean's permission/change grade mode with form (5pm)</b>	
17	12/12	<b>Final Exam Week</b>	

## Course Student Learning Outcomes

*Upon successful completion of the course, students will be able to:*

- 1. Use function notation; perform function arithmetic, including composition; find inverse functions.**
- 2. Identify functions and their transformations given in algebraic, graphical, numerical, and verbal representations, and explain the connections among these representations.**
- 3. Graph and interpret key feature of functions, e.g., intercepts, leading term, end behavior, asymptotes, domain and range.**
- 4. Solve equations algebraically to answer questions about graphs, and use graphs to estimate solutions to equations.**
- 5. Solve contextual problems by identifying the appropriate type of function given the context and creating a formula based on the information given.**
- 6. Communicate mathematical information using proper notation and verbal explanations.**