

Welcome to

MATH 1240

PRE-CALCULUS

INSTRUCTOR:

Precious Andrew
pandrew@unm.edu
Office: AS123

OFFICE HOURS:

Tuesday & Thursday 12:30-1:30pm and
Tuesdays 2:45-4:45pm in-person at
Valencia Campus, Room Arts and
Sciences 123 (A123). I'm also available
via Zoom during these times, or by
appointment.

COURSE DESCRIPTION:

This course extends students' knowledge of polynomial, rational, exponential and logarithmic functions to new contexts, including rates of change, limits, systems of equations, conic sections, and sequences. May be taken concurrently with MATH 1230.

PREREQUISITES:

C or better in Math 1220 or an appropriate placement test. Check with your advisor to make sure you meet the requirements.

Start by *exploring* our course
at canvas.unm.edu.

Here you will find course information and the link to our etextbook: *Pre-calculus Mathematics for Calculus*, 7th Edition, Stewart, Redlin, Watson.

In Canvas you can also access other course materials.

The *grade you earn* will be based on the following assignments:

Midterm Exam	100 points
Final Exam	150 points
Quizzes	150 points
Total	400 points

For this class, *you will need* reliable internet access, a scanner or scanner app like AdobeScan or CamScanner, and a basic (non-graphing) calculator.

Late work is generally not accepted, but please contact me if you have special circumstances.

Attending class is essential. Please commit to attend every class meeting, unless there is an emergency. If you miss three classes, you may be dropped from the course. This is because students who miss this many class meetings rarely successfully complete the course. *In an online course, not submitting an assignment or quiz will be regarded as an absence.* Please communicate any special circumstances with me.

MECS DIVISION CHAIR:

Ariel Ramirez
aramirez8@unm.edu



ABOUT YOUR INSTRUCTOR:

I hope to see you in office hours! For now, here is a little about me. My name is Precious Andrew. Most students call me my first name, Precious, or Ms. Andrew if you prefer. I have been teaching mathematics at UNM since 2007. I have lived in *New Mexico* since I was a child, I studied at UNM, I love red chile, and I enjoy powerlifting.



TUTORING:

You can schedule an appointment for free in-person or online *tutoring*. Stop by the Learning Center in the UNM-Valencia Campus library, email tutor@unm.edu, call (505)228-8860, or visit the link to schedule an appointment –

[https://outlook.office365.com/owa/calendar/TESTLearningCommons@unmm.onmicrosoft.com/bookings/Links to an external site.](https://outlook.office365.com/owa/calendar/TESTLearningCommons@unmm.onmicrosoft.com/bookings/Links%20to%20an%20external%20site)



VALENCIA

“You can totally do this!”

Here are some additional *resources*:

UNM Valencia Library -
<http://valencia.unm.edu/library/>

UNM Valencia Life Resources -
<http://valencia.unm.edu/students/student-resources.html>

Veteran's Resource Center -
vrcc@unm.edu

PASOS Resource Center - (505) 925-8546, pasos@unm.edu. The Resource Center is an on-campus center that serves as a “one-stop” for all non-academic needs of UNM-Valencia students.

Here are some of the *student learning outcomes*:

By the end of the semester, students should be able to:

Course Goal 1: Communication

SLO 1: Students will be able to use correct mathematical notation and terminology. SLO 2: Students will be able to read and interpret graphs.

Course Goal 2: Functions

SLO 1: evaluate functions and difference quotients for a variety of functions.
SLO 2: graph some basic functions; this includes power, root, reciprocal, and piecewise defined functions.
SLO 3: calculate an average rate of change of a function and to interpret its meaning.
SLO 4: shift, and reflect graphs, and to compress and stretch graphs horizontally and vertically.
SLO 5: set up models using functions in word problems.
SLO 6: find extreme values of quadratic functions.
SLO 7: compose functions and to express a given functions as a composition of two simpler functions.
SLO 8: identify one-to-one functions and find and graph their inverses.

Course Goal 3: Polynomial and Rational Functions

SLO 1: determine the end behavior and the zeros of polynomial functions. They will be able to use this to graph the function.
SLO 2: divide polynomials and to understand the Division Algorithm. Students will be able to solve quadratic equations with complex roots.
SLO 3: find horizontal, vertical, and skew asymptotes of rational functions. They will be able to graph rational functions.

Course goal 4: Exponential and Logarithmic Functions

SLO 1: graph exponential and logarithmic functions.
SLO 2: solve a variety of exponential and logarithmic equations.
SLO 3: set up exponential growth and decay models and to solve the associated word problems.

Course goal 5: Analytic Geometry

SLO 1: identify and graph the conic sections.

University Policies:

Title IX:

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. 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>.

Grade mode and Withdrawals: You must select your grade mode (Letter Grade, CR/NC, or Audit) within the first 2 weeks of the semester. Students who withdraw after the deadline will receive a grade of W. If you do not withdraw (but stop attending), you may receive a failing grade. Make sure to drop the class on my.unm if you wish to do so. See the list of all deadlines: www.registrar.unm.edu

Accessibility Statement and Accommodations:

UNM is committed to providing equitable access to learning opportunities for students with documented disabilities. As your instructor, it is my objective to facilitate an inclusive classroom setting, in which students have full access and opportunity to participate. To engage in a confidential conversation about the process for requesting reasonable accommodations for this class and/or program, please contact the UNM-Valencia Equal Access Services, at (505) 925-8910 and/or The Accessibility Resource Center at arcsrvs@unm.edu or by phone at 505-277-3506

Schedule of Topics:

Week of	Topics	Practice homework from e-textbook: (do the odd numbered problems)
Aug 21	2.1 What is a Function?	11,17-25 all, 27, 29, 31-41 all,47-61
	2.2 Graphs of Functions	17,19,25,35-41,49,53,56,61,63
	2.3 Information from Graphs	5,7,9,11,15,31,33,43-45
Aug 28	2.4 Average Rate of Change	5,7,11,13-20 all,23-31
	2.6 Transformations of Functions	5-13,23-29,33,39-43,55-65,75,83,95
Sep 4	2.7 Combining Functions	11-15,16,27-31,35-41,45,49,51,61-65,67
	2.8 One-to-One, Inverse Functions	13,15,21,31-35,43,45,49-57,61,63,85,95
Sep 11	3.1 Quadratic Functions/Models	15-33,39-43,49,51-65
Sep 18	3.2 Polynomial Functions/Graphs	5-9,13,18,25,27,28,29,33-39,43,51
	3.3 Dividing Polynomials	3-19,47-67 (use long division!)
Sep 25	3.4 Real Zeros of Polynomials	17,19,25,29,33,35,45,47,51,55,59
	3.6 Rational Functions	9,11,13,19,23,25,29,31-37
Oct 2	3.6 Finish	43,49,54,58,69-73
	1.8 Inequalities	51,55-65,73-85
Oct 9	10.8 Systems of Nonlinear Equations	3,9,15,17,21,23,27,31,45
	Fall Break	
Oct 16	Review	
	Midterm Exam Friday October 20th	
Oct 23	4.1 Exponential Functions	21-30 all, 31-41,44
	4.2 Natural Exponential Function	9-15,24,25(a-c),33-37
Oct 30	4.3 Logarithmic Functions	9-19,27,29,33,53,55,63-77
	4.4 Laws of Logarithms	15-19,32,39,45,53,61
Nov 6	4.5 Exp. /Log. Equations	15,21,35,39,45,61,65,67,89-
	4.6 Modeling with Exponential Fun.	3-27
Nov 13	13.1 Limits: Numerically/Graphically	5-9, 17-19, 29,31
	13.2 Limits: Algebraically	5-30 all,33,43,35,37,39,41,43
	13.4 Limits at Infinity	5-15,19-21 (table only) 23-27,31,33
Nov 20	13.3 Tangent Lines and Derivatives	11-17, 21,23,25,39,41,43,45
	Thanksgiving Break	
Nov 27	11.2 Ellipses	5-13,23-27,33,39,51-55
	11.3 Hyperbolas	3-7,11,15,17,23,25,37-39
	Handout on Unit Step Function	
Dec 4	Review	
Dec 11	Final Exam Monday December 11th	

