

Welcome to Math 1250!

This *summer 2023* we will explore many topics in ***Pre-Calculus and Trigonometry.***

This course is *fully online.*

You can find all *course information and assignments* at *canvas.unm.edu*

This includes *lecture videos,*

worksheets you'll submit 1-2x per week,

the *e-textbook* (Pre-calculus Mathematics for Calculus, 7th Edition, Stewart, Redlin, Watson)
and written practice homework,

the *course schedule*, and other *resources.*

The best way to *communicate* with me is via email at pandrew@unm.edu.

I usually respond within 24 hours.

Office hours this summer are online via Zoom Thursdays 5-6:40pm. In addition, I will hold in-person office hours Thursdays 4-5 in-person at UNM Main-Campus (ABQ) in DSH Lobby near the deli, or by appointment.

The *prerequisite* for this course is a grade of C (not C-) or better in Math 1220 or an appropriate placement score. The *grade you earn* will be based on the following assignments, described in Canvas:

2 In-Class Exams (150 pts. each)	300 points
Worksheets	150 points
Final Exam	200 points
Total	650 points

For this class *you will need* reliable internet access, either a tablet with stylus or a printer and a scanner or scanner app like AdobeScan or CamScanner.

The *exams* will take place at the following times (make sure to keep these days and times available):

Exam 1 Friday, June 23, 4-6pm

Exam 2 Friday, July 14, 4-6pm

Cumulative Final Exam Friday, July 28, 4-6pm

The ***exams will be conducted online***, but you will need your tablet or printer and scanner app to complete them. You do not need a calculator for the exams. If you choose, you may use only a basic 4-function calculator on exams (not a scientific or graphing calculator).

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

In an online class, not submitting an assignment is regarded as an absence. If you fail to complete 3 assignments (worksheets or exams), you *may be dropped* from the class.

Please *communicate* any special circumstances with me.

You may not use a scientific or graphing *calculator* on exams. You do not need a calculator

for exams. A few homework problems require a scientific calculator.

I hope to meet you in office hours! For now, here is a little *about me*.

My name is *Precious Andrew* (most people 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.*

Here are some of the *student learning outcomes:*

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

(SLO#1) **Use Correct Mathematical Notation and Terminology**

(SLO#2) **Graph and Interpret Functions:** Sketch and interpret graphs in context of applications; apply appropriate transformations for the following: polynomial functions (linear, quadratic, followed by those with degree three and higher), trigonometric functions, exponential and logarithmic functions, rational functions, parametric equations, and conic sections. Be able to create and graph piece-wise functions from all of the above. Create graphs to model situations.

(SLO#3) **Perform Operations on Functions:** Be able to use function notation to evaluate expressions and perform operations on functions such as addition, subtraction, multiplication, division, composition and difference quotients of functions. Be able to find the domain and range of functions as well as their inverses (if they exist).

(SLO#4) **Analyze the Behavior of Functions:** Be able to determine the end behavior and intercepts of functions. Be able to determine extreme values of functions and intervals where functions increase or decrease. Apply this analysis to interpreting an applied problem.

(SLO#5) **Solve Equations:** Be able to solve exponential, logarithmic, trigonometric, quadratic, radical, and rational equations. Also be able to solve linear and non-linear systems of equations. Be able to interpret solutions in context of applications.

(SLO#6) **Solve Applied Problems:** Be able to set up models from word problems using appropriate functions or laws.

(SLO#7) **Perform Operations with Complex Numbers and Vectors:** Be able to determine the trigonometric and polar form of a complex number. Be able to add vectors in two dimensions and determine the angles between vectors. Use vectors and complex numbers to solve applied problems.

Here is our *Schedule of Topics:*

Week	MATH 1250 Topics	Practice Homework from e-textbook: (Do the odd numbered problems).	
June 5	2.2	Graphs of Functions	17, 19, 25, 35-41, 49, 53, 56, 61, 63
	2.4	Average Rate of Change	5, 7, 11, 13-20 <u>all</u> , 23-31
	2.6	Transformations of Functions	5-13, 23-29, 33, 39-43, 55-65, 75, 83, 95
	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
3.1	Quadratic Functions/Models	15-33, 39-43, 49, 51-65	
June 12	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 (long division only)
	3.6	Rational Functions	9, 11, 13, 19, 23, 25, 29, 31-37, 43, 49, 54, 58, 69-73
	1.8	Inequalities	51, 55-65, 73-85
	4.1	Exponential Functions	21-30 <u>all</u> , 31-41, 44
4.2	Natural Exponential Function	9-15, 24, 25(a-c), 33-37	
June 19	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
	4.5	Exp. /Log. Equations	15, 21, 35, 39, 45, 61, 65, 67, 89-97
	11.2	Ellipses	5-13, 23-27, 33, 39, 51-55
	11.3	Hyperbolas	3-7, 11, 15, 17, 23, 25, 37-39
	Exam 1 Friday, June 23, 4-6pm		
June 26	10.8	Systems of Nonlinear Equations	3, 9, 15, 17, 21, 23, 27, 31, 45
	5.1	Unit Circle	1-19, 41-49
	5.2	Trigonometric Functions	7-23, 39-45, 55-69, 73, 75
	5.3	Trigonometric Graphs	3, 7, 11, 15, 19-23, 31, 35, 36, 37, 39, 43-49, 51-53 (graph <u>by hand</u>), 77, 79abc
	5.4	Trigonometric Graphs	3-13, 17, 19, 23, 27, 29, 35, 39-43, 47-53
5.5	Inverse Trigonometric Functions	3-11, 17, 23, 25, 31-41	
July 3	6.1	Angle Measure	5, 7, 13-17, 21, 27, 29, 45, 47, 51-57, 61-67, 71, 73, 79-85
	6.2	Trig of Acute Angles	3-7, 11, 15-21, 31, 35, 47-59
	6.3	Trigonometric Functions of Angles	5-15, 21, 27, 29, 35-43, 47-51, 63, 65
	6.4	Inverse Trigonometric Functions	1-17, 21-27, 33, 35, 39, 41
	6.5	Law of Sines	3-9, 17-21, 33-41
July 10	6.6	Law of Cosines	7-15, 25, 39-43, 49, 51
	7.1	Identities	7, 9, 13-17, 21, 29-45, 49, 53, 67, 81, 83, 91-95
	7.2	Addition/Subtraction Formulas	21-33, 59, 61
	7.3	Double/Half Angle Formulas	5-13, 25, 29, 37, 41, 55, 57, 73, 74, 75
	Exam 2 Friday, July 14, 4-6pm		
July 17	7.4	Trigonometric Equations	5-9, 13, 17, 19, 25, 31, 37, 41-53
	7.5	Trigonometric Equations	3, 9, 11, 17-25, 35b, 37b, 38b
	8.4	Parametric Equations	1-11 <u>all</u> , 31-34 <u>all</u>
	8.1	Polar Coord	5-13, 23-31, 37-61
	1.6	Complex Numbers	19, 21, 27, 29, 33-53, 57, 59, 61, 67, 70, 71
	8.3	Polar Form	5-17, 21-47, 53-57, 61-65
9.1	Vectors	5-21, 33-47, 53-59, 67	
July 24	9.2	Dot Product	5-35, 45-49
	13.1	Limits: Numerically/Graphically.	5-9, 17-19, 29, 31
	13.2	Limits: Algebraically	5-30 <u>all</u> , 33, 43, 35, 37, 39, 41, 43
	13.3	Tangent Lines and Derivatives	11-17, 21, 23, 25, 39, 41, 43, 45
13.4	Limits at Infinity	5-15, 19-21 (table only) 23-27, 31, 33	
	Cumulative Final Exam Friday, July 28, 4-6pm		

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 online appointment - <https://valencia.unm.edu/campus-resources/learning-commons/index.html>

Stop by CAPS on the 3rd floor of Zimmerman library at *UNM-Main Campus*, call (505) 277-7205, or visit the link to schedule an online appointment - <https://caps.unm.edu/services/online-tutoring/olc.php>

Here is some *standard information:*

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 do need to stay home, please communicate with me; 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 me, an advisor, or another UNM staff member know that you need support so that we can connect you to the right resources. Please be aware that UNM will publish information on websites and email about any changes to our public health status and community response.

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>.

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.

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.edu if you wish to do so. See the list of all deadlines: www.registrar.unm.edu

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 - vrc@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.

Student Health and Counseling (SHAC) - (505) 277-3136. If you are having 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. Offers help with contacting faculty and managing challenges that impact your UNM experience.