

UNM Valencia
MATH 1230-501, Trigonometry
Fall 2023

Instructor: Michael Gonzales

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Office Location: Tome Campus LRC 107

Tutoring Hours: Tuesdays: 1225-1325, Wednesdays: 1345-1445 (Workforce Training Center), Thursdays: 1245-1315, 1500-1530, Fridays: 1330-1630 on Zoom (Office Hour Link)

Class time and location: Mondays and Wednesdays 1500-1615, Workforce Training Center (1020 Huning Ranch East Loop SW, Los Lunas, NM 87031) Room 1205

MECS Division Chair: Ariel Ramirez (aramirez8@unm.edu)

This is a three credit-hour course. Class meets for two 75-minute sessions of direct instruction for fifteen weeks during the Fall 2023 semester. Please plan for a minimum of six hours of out-of-class work (or homework, study, assignment completion, and class preparation) each week

Textbook: Ebook - Pre-calculus Mathematics for Calculus, 7th Edition, Stewart, Redlin, Watson

This course comes with Inclusive Access (IA). You will receive an email that contains instructions for inclusive access to the book via the RedShelf on UNM Learn. Please, read the instructions carefully and follow what is required to have access to the book at a discounted price.

Course description: A study of plane trigonometry including the definitions of the fundamental trig functions using right angle triangle and unit circle approaches. Trig functions of any real number will be evaluated and the functions graphed along with their transformations. Trigonometric identities will be developed and demonstrated including multiple angle identities and identities developed from them. Inverse trigonometric functions will be developed and used to solve trigonometric equations. Trigonometric applications will be solved using right angle trigonometry and the laws of sines and cosines. Trigonometric methods will be applied to complex numbers and the use of 2D vectors and vector dot products. May be taken concurrently with 1240. (3 Credit Hours).

Prerequisites: Prerequisite: 1220 or ACT Math ≥ 25 or SAT Math Section ≥ 590 or ACCUPLACER Next-Generation Advanced Algebra and Functions = 249-283 or Lobo Course Placement Math ≥ 60 .

Other Requirements:

- Reliable access to a computer or tablet, and Internet. A computer (laptop or desktop) is recommended. Preferred browsers are Chrome, Firefox, or Safari. The preferred operating systems are Windows or Apple.
- Access to UNM Canvas requires use your UNM NetID to log into UNM Canvas. You may access it directly via <https://canvas.unm.edu/>

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. Points will be deducted for unexcused absences and unexcused tardiness.

- **Absences:** If you know ahead of time you will miss class, send me an email with the date of the absence to receive and excused absence. Arrange before the next class to get notes

from a classmate. The student is responsible for the material and information covered in class.

Written Homework (25%): There will be a homework assignment that is assigned every week, and will be due the following week on Wednesday at the beginning of class. These homework assignments will be problems from the book and can be found in the etext available through RedShelf on the Canvas page. The problem numbers can be found under each assignment, also in our Canvas page. No late homework will be accepted. Your lowest homework grade will be dropped.

Labs (10%): Labs will be given in class and are intended to be worked on solely in class. These will be worksheets that I will have for you. These will not be handed out every class and they will not be announced ahead of time, so the attendance for these will be crucial. Labs will not be able to be made up. I know that there will be times when students need to miss class, so your two lowest lab grades will be dropped. Labs will consist of various problems and can be worked on in groups.

Midterm Exams (30%): There will be two exams that will be take place in class over the course of the semester. They will be announced at least one week in advance, with the class before the exam set up to be a Review session for the exam. If you anticipate that you will miss an exam, please let me know ahead of time. Missing an exam without an excuse will result in a 0 for the exam. Please see the tentative schedule at the end of the syllabus for estimated timeframes for these exams.

Cumulative Final Exam (25%): There will be a cumulative final exam that will take place at the end of the semester that will test all or nearly all of the Student Learning Objectives. The date of this exam right now is scheduled for Monday, December 11 from 1500-1700. You may take the Final Exam only once.

Calculator/Notes Policy: Scientific/graphing calculators are not allowed on any exams (including the final exam). I will demonstrate examples without the use of a calculator. If you'd like, you may use a basic, 4-function calculator on exams, but nothing more. There may be a few homework problems that require a scientific calculator, but these won't be used on exams. Notes, books, cell phones, web searches, consultations with friends or tutors, etc. are also not allowed on exam.

Grading: Course Averages: Attendance/Participation 10%, Written Homework 25%, Labs 10%, Midterm Exam 20%, Final Exam 25%. Total: 100%

Grading Scale:

A+ [98% - 100%]	A [93% - 98%]	A- [90% - 93%]
B+ [88% - 90%]	B [83% - 88%]	B- [80% - 83%]
C+ [78% - 80%]	C [70% - 78%]	
D [60% - 70%]		
F [0% - 60%]		

In the case where a student is unsuccessful in the course, if a grade is required for financial aid, please inform the professor.

Expectations:

- Students are expected to conduct themselves in a polite, courteous, professional, and collegial manner. When participating in discussions or interacting with me or other students be respectful at all times.

Support:

- Tutoring Hours: See my tutoring hours listed at the beginning of this syllabus. Feel free to come by or log in for online office hours or make an appointment to get help.
- Form study groups: You may work together with other members of our class.
- Resources to support study skill and time management are available through UNM-Valencia Learning Commons (Tutoring). Tutoring is available to you in math, science, writing, and other subjects through the Learning Commons: Learning and STEM Centers and Writing Center. In person tutoring is in these centers in the LRC (the building that also has the library). Tutoring in Zoom and, for writing, through email, is also available.

Making use of tutoring is a fantastic way to use your resources and set yourself up to learn deeply and well in your courses. To schedule an appointment, please go to: Learning Commons Bookings

If you are making an email appointment with the Writing Center, email your draft to tutor@unm.edu after you fill out the form above.

If you have difficulty with the scheduling link above, would like an appointment in a subject not listed at that link, or have a question, email tutor@unm.edu. You'll get answers during business hours Monday through Friday. The webpage, with more details about available hours, is here: Learning Commons: Tutoring Services webpage. 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").

- 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
- Many students have found that time management workshops or work with peer tutors can help them meet their goals. These and are other resources are available through PASOS (Pathways to Articulation and Sustainable Opportunities for Students), TRIO Student Support Services, and Student Learning Support at the Center for Teaching and Learning.

Instructor Response Time: I routinely check the course for postings or emails, Monday (9 am – Friday (5 pm), and sometimes on the weekend. You can anticipate a 24 to 48-hour response from me, Monday – Thursday. I will try and respond to all weekend (Friday afternoon to Sunday) emails and postings by noon on Monday or earlier. I prefer all communication through email or Canvas Learn.

Other Important Information:

Equal Access: 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 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. At the appointment, we can discuss the course format and requirements, 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, Cheryl Dilger at (505) 925-8910 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.

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://policy.unm.edu/regents-policies/section-4/4-8.html>. The policy states:

Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or who otherwise fails to meet the expected standards. 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.

Title IX Statement: To meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered “responsible employees.” This designation requires that any report of gender discrimination, which includes sexual harassment, sexual misconduct and sexual violence, made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office Compliance, Ethics and Equal Opportunity (ceeo.unm.edu). For more information on the campus policy regarding sexual misconduct and reporting, see: <https://policy.unm.edu/university-policies/2000/2740.html>.

- Support: LoboRESPECT Advocacy Center, the Women’s Resource Center, and the LGBTQ Resource Center all offer confidential services.

Respectful and Responsible Learning: We all have shared responsibility for ensuring that learning occurs safely, honestly, and equitably. Submitting material as your own work that has been generated on a website, in a publication, by an artificial intelligence algorithm, by another person, or by breaking the rules of an assignment constitutes academic dishonesty. It is a student code of conduct violation that can lead to a disciplinary procedure. Please ask me for help in finding the resources you need to be successful in this course. I can help you use study resources responsibly and effectively. Off-campus paper writing services, problem-checkers and services, websites, and AIs can be incorrect or misleading. Learning the course material depends on completing and submitting your own work. UNM preserves and protects the integrity of the academic community through multiple policies including policies on student grievances (Faculty Handbook D175 and D176), academic dishonesty (FH D100), and respectful campus (FH CO9). These are in the Student Pathfinder (<https://pathfinder.unm.edu>) and the Faculty Handbook (<https://handbook.unm.edu>).

- Support: Many students have found that time management workshops or work with peer tutors can help them meet their goals. These and are other resources are available through PASOS (Pathways to Articulation and Sustainable Opportunities for Students), TRIO Student Support Services, and Student Learning Support at the Center for Teaching and Learning.

COVID-19 Health and Awareness: COVID-19 Health and Awareness. UNM is a mask friendly, but not a mask required, community. If you are experiencing COVID-19 symptoms, please do not come to class. If you do need to stay home, please communicate with me; I can work with you to provide alternatives for course participation and completion. 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

Support:

- PASOS Resource Center (505) 925-8546, pasps@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) at (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 can offer help with contacting faculty and managing challenges that impact your UNM experience

Accomodations: 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 Accessibility Resource Center at arcsrvs@unm.edu or by phone at 505-277-3506. The UNM-Valencia Equal Access Services (Sarah Clawson, Coordinator), at (505) 925-8840 or by email at sjclawson@unm.edu.

- Support: Contact me at my email or in office/check-in hours. The UNM-Valencia Equal Access Services (Sarah Clawson, Coordinator), at (505) 925-8840 or by email at sjclawson@unm.edu., Or Accessibility Resource Center (<https://arc.unm.edu>) at arcsrvs@unm.edu or (505) 277-3506.

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 made a core commitment to the success of all our students, including members of our undocumented community. The Administration’s welcome is found on our website: <https://undocumented.unm.edu>.

For Military-Connected Students: There are resources on campus designed to help you succeed. You can approach any faculty or staff for help with any issues you may encounter. Many faculty and staff have completed the GREEN ZONE training to learn about the unique challenges facing military-connected students. If you feel that you need help beyond what faculty and/or staff can give you, please reach out to the Veterans Resource Center on main campus at 505-277-3181, or by email at <https://vrc@unm.edu>. The Veterans Coordinator at UNM-Valencia is in the Student Services Office, at 505-925-8560.

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.

Semester Dates and Deadlines:

- Monday, August 21: First day of class, classes available in UNM Canvas
- Monday, September 4: Labor Day, NO CLASS
- Friday, September 1, by 5:00 pm: Last day to add a class or to change credit hours or grade mode in LoboWEB.
- Friday, September 8, by 5:00 pm: Last day to drop without ”W” grade and with 100% refund on LoboWEB
- Thursday and Friday, October 12-13: Fall Break, NO CLASS

- Friday, November 10, by 5:00 pm: Last day to drop without Dean's permission on LoboWEB. Will receive a "W" grade and will be responsible for tuition for the course.
- Friday, December 7, by 5:00 pm: Last day to drop with the permission form.
- Final Exam: Monday, December 11, 3:00 pm - 5:00 pm

MATH 1230 Course Student Learning Outcomes: Upon successful completion of the course, students will be able to:

1. Use correct mathematical notation and terminology.
2. Read and interpret graphs.
3. Use the unit circle to define the six trigonometric functions.
4. Graph the sine, cosine, and tangent functions.
5. Fit a sine or cosine function to a given graph
6. Work with radians and to solve circular motion problems.
7. Solve right triangles. They will be able to draw a sketch in an applied problem when necessary.
8. Solve non-right triangles using the law of sines and the law of cosines.
9. Prove trigonometric identities.
10. Apply addition and subtraction, double-angle and half-angle formulas.
11. Graph the inverse sine, cosine, and tangent functions
12. Solve problems that require the inverse trigonometric functions.
13. solve trigonometric equations. These may require the formulas outlined in SLO 2.
14. Work with the trigonometric form of complex numbers. This includes DeMoivre's formula.
15. Work with the Euler form $r \cdot e^{i\theta}$ of complex numbers.
16. Work with vectors in two dimensions.
17. Work with polar coordinates; this includes graphing in polar coordinates and transforming an equation with polar coordinates into one with rectangular coordinates, and vice versa.
18. Graph parametric equations in two dimensions that involve trigonometric functions

Tentative Schedule

Week	Dates	Sections/Topics	Assignments Due
1	08/21-08/27	Section 6.1 Section 6.2	
2	08/28-09/03	Section 6.3/5.2	6.1 and 6.2 HW
3	09/05-09/10	Section 5.3 Section 5.4	6.3 and 5.2 HW
4	09/11-09/17	Section 5.6 Sections 6.4/5.5	5.3 and 5.4 HW
5	09/18-09/24	Section 7.1 Section 7.2	5.6 and 6.4,5.5 HW
6	09/25-10/01	Review Exam 1	7.1 and 7.2 HW
7	10/02-10/08	Section 7.3 Section 7.4	
8	10/09-10/15	Section 7.5 Section 8.1	7.3 and 7.4 HW
9	10/16-10/22	Section 8.2 Section 1.6	7.5 and 8.1 HW
10	10/23-10/29	Section 8.3	8.2 and 1.6 HW
11	10/30-11/05	Review Exam 2	8.3 HW
12	11/06-11/12	Section 6.5	
13	11/13-11/19	Section 6.6	6.5 HW
14	11/20-11/26	Section 9.1	6.6 HW
15	11/27-12/03	Section 9.2	9.1 HW
16	12/04-12-10	Final Review	9.2 HW
	12/11-12/17	Final Exams Week	December 11, 3:00 pm-5:00 pm