Math 1220   COLLEGE ALGEBRA   Fall 2022

Instructor: Precious Andrew
CRN: 64280

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Class Meets: Fully Online

Office Hours/Study Sessions **(feel free to stop by!)**: Tuesdays and Thursdays 4:15-5:45 in-person at Valencia Campus, Room Arts and Sciences 123 (A123).

Additional times available on Main (Central) campus in-person to accommodate online Main campus students who wish to meet in person (see updates in Canvas).

Online via Zoom (Tentatively-see updates in Canvas) Mondays 5-6:30pm (or please email me for an appointment!).

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.

Textbook: College Algebra: Concepts Through Functions, 4th edition, Sullivan. ISBN 9780137399598. Available as an e-book for a budget price.

Prerequisite: Grade of C or higher in MATH 1215X and 1215Y and 1215Z or MATH 1170 + MATH 1215Z or MATH 1215, or minimum ACCUPLACER score of >= 239 (A&F) or math ACT score of >=22, or math SAT score of >=540. Meets University of New Mexico Core Curriculum Area 2: Mathematics and Statistics.

Grades: Your grade will be based on the following allocation of points.

Worksheets/Assignments	150 points
Midterm Exam	100 points
Final Exam	150 points
Total	**450 points**

How Grades Are Determined:

A+: 97-100%	A: 93-96%	A-: 90-92%	B+: 87-89%	B: 83-86%	B-: 80-82%
C+: 77-79%	C: 73-76%	C-: 70-72%	D+: 67-69%	D: 63-66%	D-: 60-62%
F: < 60%					

Course Format:

1 - **You will be watching online lectures for each section**. Lectures are posted in Canvas via YouTube. These lectures should be watched in their entirety just as if you were in a classroom lecture. You should take careful notes on each and every example from each lecture. You should write down every example and all steps I show to reach a solution. These notes should be labeled clearly, organized, and neat and clear. Keep these in a notebook where you can easily access them.

2 – **You will submit written worksheets** approximately once-twice per week – see the assignments posted in Canvas for due dates. Worksheets must be organized and labeled, all work and steps must be shown, and must be presented consecutively, clearly, and legibly. You'll be submitting via Canvas. Worksheets must be submitted as one readable pdf file. You will print each worksheet, complete it, then use a scanner or scanner app on your device to create one pdf file of your completed worksheet to upload for a grade. The alternative is to complete your worksheets on a tablet using a stylus and submit a pdf of that work. **You may not use your own paper for the worksheets – you need access to either a printer or a tablet to complete the worksheets.** Note that most worksheets are already posted in Canvas. This means if you'll have difficulty accessing a printer, you could have them printed up mostly all at one time if necessary. The worksheets are designed to follow along with the lectures closely. I suggest filling them in as you watch the lectures.

3 - **You must complete written homework from the textbook for each section**. These problems are listed on the schedule towards the end of this document. **These are from your textbook (available as an ebook) with ISBN** 9780137399598. These are all odd problems, so you have the answers. Thus, it wouldn't make sense for me to grade these. These are for you to practice. **If you don't do these, you are very unlikely to succeed in the class. You need more practice than just the worksheets.**

4 - **You will complete a written midterm and a cumulative final.** These exams will appear in Canvas at the designated times. You will print the exam and complete it, then upload a pdf of your completed exam as you do the worksheets. All work needs to be shown and to be neat, clear, and in order or you will not receive credit. **The exams are not open book or notes, and you may not use a graphing or scientific calculator, phone, internet search, etc. You may not consult with anyone or receive help on the exams.** You should use only your writing instrument and a basic 4-function calculator, if you so choose, to complete the exam – nothing else. The use of anything beyond this on the exams may be considered academic dishonesty, may be reported to the Dean of Students, and may be grounds for receiving an F in the course.

   Tentative dates for exams: Midterm Exam Friday, Oct 21, 3pm-5pm   Final Exam Friday, December 9, 3pm-5pm

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 exams.

Missed Exams: If you miss an exam, contact your instructor immediately. Make-up exams will only be given in cases of a university-excused absence or a verifiable documented emergency or illness. If you miss an exam and do not contact your instructor immediately, you may be dropped from the course.

Extra Credit is not offered. Please do not ask for any extra credit. Instead, boost your grade by doing as well as possible on worksheets and assignments. Feel free to come by office hours to work on them with me!

Attendance: Attendance is mandatory. If a student has more than three unexcused absences, he/she may be dropped from the course. **In an online course, not submitting an assignment will be regarded as an absence.** Please note that it is the student's responsibility to drop the course if he/she stops attending. A failing grade of F may be assigned if the student stops attending and does not drop before the posted deadline. **Keep me updated of any extenuating circumstances.**

Credit-hour statement: This is a three credit-hour course delivered in an entirely online modality over 16 weeks during the Fall 2022 semester. Please plan for a minimum of 9 hours per week to learn course materials and complete assignments.

Student Behavior: All students have to abide by the Student Code of Conduct: www.pathfinder.unm.edu. According to the Code of Conduct, student activities that interfere with the rights of others to pursue their education or to conduct their University duties and responsibilities will lead to disciplinary action. This includes any activities that are disruptive to the class and any acts of academic dishonesty. Students are expected to behave in a courteous and respectful manner toward the instructor and their fellow students. The use of cell phones, headphones, smart watches, etc. is not permitted during class or exams.

Academic Integrity: Academic dishonesty of any kind will not be tolerated. Examples include, looking at a neighbor's exam; plagiarizing; using a calculator when not permitted; using a book, online material, and/or notes of any kind; modifying an exam after it is graded; etc. The instructor may warn an offending student, the score of the exam may be reduced, the score may be set to zero, the student may get dropped from the class, the student may get a grade of F for the class, and in most cases the incident will be reported to the Dean of Students. You should be familiar with UNM's Policy on Academic Dishonesty and the Student Code of Conduct.

Grading: To get full credit on graded work students must address all mathematical components presented by the problem, showing all steps and calculations. The use of proper notation, well-structured procedures, and legibility will be taken into account when assigning points.

Deadlines: Registration deadlines are published by the Office of the Registrar in the schedule of classes: www.registrar.unm.edu.

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 are in the regular grade mode and who withdraw after the end of week 3 will receive a grade of "W". If you do not withdraw (but stop attending), you will receive a letter grade of A, B, C, D, or F. Students who are in the CR/NC grade mode and who withdraw after the end of week 3 will receive a grade of "W". If you do not withdraw (but stop attending), you will receive a letter grade of NC.

Accessibility Statement and 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 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/check-in hours (I am not legally permitted to inquire about the need for accommodations). We can meet your needs in collaboration with the Accessibility Resource Center (https://arc.unm.edu/). If you have a disability requiring accommodation, please contact http://valencia.unm.edu/students/student-services.html or by phone 505-925-8560. Information about your disability is confidential and your instructor cannot refer you for accommodations. Be aware that you will need to provide documentation. If you need assistance in obtaining documentation, the office above can assist you.

Extra Help and Resources: In addition to your instructor's office hours, there is extra help available at:
- The Learning Center - https://valencia.unm.edu/campus-resources/the-learning-center/index.html
- UNM Valencia Library - http://valencia.unm.edu/library/
- 'Life Resources" - http://valencia.unm.edu/students/student-resources.html
- Student Health and Counseling (SHAC) - https://shac.unm.edu/
- Veteran's Resource Center - vrc@unm.edu

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. 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

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 us know that you need support so that we can connect you to the right resources and please be aware that UNM will publish information on websites and email about any changes to our public health status and community response.

Student Learning Outcomes

Students will build on their knowledge of polynomial, rational, absolute value, radical, exponential and logarithm functions in the following contexts:

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 between these representations.
3. Graph and interpret key feature of functions, e.g., intercepts, leading term, end behavior, asymptotes.
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.

Tentative Schedule

Note: The instructor for this class reserves the right to change the syllabus at any point during the semester.

Week		MATH 1220 Topics	Suggested Textbook Homework Problems
Aug 22	1.1	Functions	1,2,3,4,5,7,16,17,19,23,31,37,43,49,53,55,59,63,67,83,85,87,91,93,99,101
Aug 29	1.2	Graphs of Functions	1,2,4,5,7,8,10,11,17,19,21,25,27
	1.3	Properties of Functions	1,2,3,4,5,6,7,8,9,11,17,21,23,25,33,39,43,47,49,65,71,73,83
Sep 5	Labor Day Holiday Sep 5		
	1.4	Library of Functions	1,2,3,4,6,7,8,9,10,11-18,19,21,23,27,29,31,33,35,37,51
	1.5	Transformations	1,2,4,5,11-14,19,21,23,25,27,29,31,33,39,43,51,53,56,63,77,81
Sep 12	2.1	Linear Functions	1,2,3,4,5,8,9,10,15,17,25,35,37,39,43,53
	2.3	Zeros of Quadratic Functions	1,2,3,4,5,6,10,13,19,29,33,43,55
Sep 19	2.4	Properties of Quadratic Functions	1,2,3,4,8,10,11,12,13-20,23,27,33,39,55,71,75,85,89
	2.4	Continued	
Sep 26	2.6	Quadratic Models	1,3,7,9,11,19
	2.8	Absolute Value	1,3,4,5,6,7,8,10,11,12,13,19,31,33,47,51,53,57,67
Oct 3	2.8	Continued	
	3.1	Polynomials	1,2,3,5,6,8,9,11,12,13,15,16,17,21,27,43,57,81,83,89,93,97
Oct 10	3.4	Rational Functions	1,3,4,6,7,9,10,15,17,19,25,27,33,35,41,45,47,49
	Fall Break Oct 13-14		
Oct 17	3.4	Continued	
	Review		
	Midterm Exam Friday, Oct 21, 3pm-5pm		
Oct 24	3.5	Graphing Rational Functions	1,2,3,4,7,9,11,13,15,17,19,31,33
	4.1	Compositions	1,2,3,6,9,11,13,15,27,29,33,35,37,49,59
Oct 31	4.2	Inverses	1,2,3,4,5,6,7,8,9,10,11,12,13,17,21,23,31,35,45,53,57,61,65,67,71,81,83,85,97
	4.3	Exponential Functions	1,2,3,4,5,7,10,11,13,35-42,44,49,51,55,59,73,75,79,95,107,111
Nov 7	4.4	Logarithms	1,2,3,4,5,9,10,11,17,19,25,27,29,37,39,43,45,65-79, 85, 91-95,101,103, 111
	4.5	Properties of Logarithms	1,2,3,4,5,6,8,9,10,11,12,15,17,19,21,29,37,39,43,51,55,57,61
Nov 14	4.5	Continued	
	4.6	Logarithmic and Exponential Equations	1,7,9,11,13,17,19,21,41,43,49,57,61,105,107
Nov 21	4.7	Financial Models	1,2,3,5,7,13,15,23,27,31,35,41
	Thanksgiving Holiday Nov 24-25		
Nov 28	4.8	Exponential Growth and Decay	1,3,9,11,21
	6.1	Systems of Linear Equations	1,2,3,4,5,6,7,11,19,21,23,27,31,35,37,57,61,63
Dec 5	6.1	Continued	
	Review		
	Final Exam Friday, December 9, 3pm-5pm		