Math 1220 COLLEGE ALGEBRA Spring 2021

Instructor: Precious Andrew email: pandrew@unm.edu
Office: Online via Zoom or email
Office Hours/Study Sessions: Most Mondays and Wednesdays 1:15-2:45, most Tuesdays and Thursdays 12:00-1:30 or by 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.

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.*

Textbook: College Algebra, Concepts Through Functions, 4th Edition, Sullivan and Sullivan

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

Worksheets	200 points
Two Written Exams	200 points
Final Exam	150 points
Total	**550 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 attending live online lectures for each section via Zoom**. Lectures will take place during the scheduled meeting time. These sessions must be attended in their entirety just as if you were in a classroom lecture. You must 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 every week or so – see the assignments posted in Learn for due dates by clicking the "Submit Assignments" link on the left sidebar. These 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 UNM Learn. Worksheets must be submitted as one readable pdf file. You will print each worksheet, complete it, then use a scanner or free 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'll need to access to either a printer or a tablet to complete the worksheets. Note that all worksheets are posted under the "Blank Worksheets' link in Learn. This means if you'll have difficulty accessing a printer, you could have them printed up all at one time at the library if necessary. **The worksheets are designed to follow along with the lectures closely.**

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. These are mostly odd problems, so you have the answers. Thus, it wouldn't make sense for me to grade them. These are for you to practice. **If you don't do these, you are very unlikely to succeed in the class.**

4 - **You will complete two written tests and a written cumulative final.** The exams will appear in UNM Learn at the designated times. You will print the exam and complete it, then upload your completed exam in Learn 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 calculator, phone, the internet, etc.** 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 your pencil and basic calculator on the exams and final 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/times for exams: (Please keep these days and times available)

Exam 1 Wednesday, Feb. 24, 12pm-1:15pm (estimated time window)
Exam 2 Wednesday, Apr. 12, 12pm-1:15pm (estimated time window))
Final Exam Wednesday, May 12, 11:30am-1:30pm (estimated time window)

Calculator/Notes Policy: Scientific **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.

Homework: Your homework is one of your most important efforts in this class. Homework is where you get most of your practice solving problems, worksheets and exams are how you demonstrate your skills to me. Expect to do 2-3 hours of homework for every hour of class meeting time (on average 10-15 hours per week). You are expected to do all of the homework problems listed in the syllabus whether they are graded or not. **Extra Credit is not offered.** Please do not ask for any extra credit.

Attendance: Attendance is mandatory. If a student has more than three unexcused absences, he/she may be dropped from the course. **In a remote class, not turning in an assignment, not watching required lectures, or missing an exam may 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. No early final exams will be permitted except in documented emergencies: flight reservations, weddings, vacations, birthdays, non-NCAA sporting events, etc. are not considered emergencies.

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: The Department of Mathematics and Statistics will adhere to all of the registration deadlines published by the Office of the Registrar in the schedule of classes: www.registrar.unm.edu. We will not give permission to override any deadline except in documented emergencies; failing a class is not considered an emergency.

Grade mode and Withdrawals: You must select your grade mode (Letter Grade, CR/NC, or Audit) within the first 2 weeks of the semester. We will not give permission to change the grade mode after the deadline. 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 (not a W). 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 (not a W). See the list of all deadlines: www.registrar.unm.edu

Accessibility Statement and Accommodations: We will accommodate students with documented disabilities. Those students should inform the instructor of their particular needs ASAP. The American with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodations of their disabilities. 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.

Blackboard's Accessibility statement
Microsoft's Accessibility statement

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: In an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered "responsible employees" by the Department of Education (see page 15 https://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf). 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 of Equal Opportunity (oeo.unm.edu). For more information on the campus policy regarding sexual misconduct, see: https://policy.unm.edu/university-policies/2000/2740.html

Note: The instructor reserves the right to change the syllabus at any point of time during the semester.

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
Jan. 18	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
Jan. 25	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
Feb. 1	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
Feb. 8	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
Feb. 15	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	
Feb. 22	2.6	Quadratic Models	1,3,7,9,11,19
	Exam 1 Wednesday, Feb. 24, 12pm-1:15pm (estimated time window)		
Mar. 1	2.8	Absolute Value	1,3,4,5,6,7,8,10,11,12,13,19,31,33,47,51,53,57,67
	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
Mar. 8	3.4	Rational Functions	1,3,4,6,7,9,10,15,17,19,25,27,33,35,41,45,47,49
	3.5	Graphing Rational Functions	1,2,3,4,7,9,11,13,15,17,19,31,33
March 15-19		Spring Break	
Mar. 22	4.1	Compositions	1,2,3,6,9,11,13,15,27,29,33,35,37,49,59
	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
Mar. 29	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
	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
Apr. 5	4.4	Continued	
	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
Apr. 12	Catch-up day		
	Exam 2 Wednesday, Apr. 12, 12pm-1:15pm (estimated time window)		
Apr. 19	4.6	Logarithmic and Exponential Equations	1,7,9,11,13,17,19,21,41,43,49,57,61,105,107
	4.7	Financial Models	1,2,3,5,7,13,15,23,27,31,35,41
Apr. 26	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
May 3-7		Review Week	
May 10		**Final Exam Wednesday, May 12, 11:30am-1:30pm (estimated time window)**	

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.