

I. 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.

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

III. Prerequisites

Math 1215XYZ or ACT Math ≥ 22 or SAT Math Section ≥ 540 or ACCUPLACER Next-Generation Advanced Algebra and Functions: 239-248.

Note: College Algebra builds on concepts learned in Intermediate Algebra. If it has been a while since you last took a mathematics class, you will probably need to review in order to be successful in College Algebra. Also, Mathematics or Statistics coursework dating back more than five years cannot automatically be counted as fulfillment of a prerequisite. Students with coursework dating back more than five years should take the placement exam offered through the University of New Mexico Testing Center to determine which Mathematics or Statistics courses to register for based on their skill level.

IV. Texts and Materials

- **Textbook and Online HW:** The textbook is COLLEGE ALGEBRA, 2nd edition, Julie Miller and Donna Gerken and the online HW is ALEKS. The e-textbook is available in ALEKS. We are using Inclusive Access for this class and all course materials will be available on the first day of class as soon as you register for and log into ALEKS.
- **Print Textbook Upgrade:** You will have the option to purchase a low-cost print version of the text through ALEKS. This is optional. If you choose to purchase a copy, a full-color, loose-leaf version will be shipped to you.
- **Calculator:** There is an online calculator in the ALEKS system. **No other calculator will be allowed.**
- **Other Materials:**
 - **A Notebook.** Within the ALEKS system you can read the textbook and watch video lectures that explain the concepts you are learning. These videos can be used to supplement lectures by your instructor. You will want a notebook to take notes while you read the textbook and watch any of the videos. You will also want a notebook for your work as you are doing problems in ALEKS. Keeping well organized notes is extremely important to your success in this class. A hole puncher and a stapler are also useful tools in organizing your notes, worksheets and any handouts.

- **Respondus Lock Down Browser:** You will be doing your tests online using the Respondus Lock-Down Browser. Instructions on downloading the Respondus LockDown Browser are in a separate file.
- **Scanning App:** You may have some written work to do in this course. This will involve downloading or viewing a file from Learn, solving the given problems, and uploading your work to Learn. A scanning app works much better than just a photo from your cell phone. There are many free scanning apps available for smart phones. These apps allow you to use the camera on your phone to take black and white scans of your work, concatenate multiple pages into a single pdf file, so that you can upload your work to Learn or email your work to your instructor. These scanning apps create files that are much easier to read than what you typically get when you simply photograph a written page. If you have an iPhone, the built in Notes app has a scanning feature. Other free apps that you can download are CamScanner, Genius Scan, Scanner Pro, TurboScan. A search in the App Store or Google Play will show a variety of free scanning apps.

V. ALEKS

- **ALEKS:** In this course we will use ALEKS, an adaptive program that creates a personalized path based on what you already know, what you don't and what you are ready to work on. ALEKS helps you learn, understand, and master content in your course so that you can be successful in this course and beyond!
- ALEKS is an adaptive learning platform from McGraw-Hill Education. Many of your course assignments will be delivered through ALEKS. ALEKS stands for **A**ssessment **and** **L**earning in **K**nowledge **S**paces. When working in ALEKS, you only work on topics that you have not yet learned and mastered.
- When you first log into ALEKS, you will be given an **Initial Knowledge Check**. This is nothing to fear, it is not a test and it does not count toward your grade. ALEKS just wants to know what you know. ALEKS will give you "credit" for any of the content of the course you may already know. This "credit" will be different for each student because each student has a unique math background — math courses taken, time since last math class, grades earned in those classes, etc. There is no right or wrong "grade" on the Initial Knowledge Check. The result of your Initial Knowledge Check is what ALEKS uses to create your own individualized learning path to work through the content of this course. You will next be asked to "Start your path." ALEKS will start by asking you to work through topics you are most ready to learn.
- You will have regular homework with due dates to do in ALEKS. ALEKS has a calendar that you can use to keep track of due dates. You will be graded on successful completion of these homework assignments.

Your homework is your most important effort in this course. It is imperative that you do all of the problems, especially the hard ones, because this is how you actually learn the material. Expect to put in 9–12 hours each week on this course. Keep all of your notes and work on your homework together in your folder or binder so that if you are having trouble in the course, you refer to your work if you ask for help from your instructor or get tutoring.

- In ALEKS, you will also see a PIE. As you learn topics, your PIE gets filled in. A portion of your homework grade is based on PIE completion. By the end of the course, you want to have a complete PIE. So even if you didn't finish a homework assignment by the due date, you can continue learning and mastering those topics in order to fill in your PIE. When you finish an objective HW assignment early you can go back to prior topics and work on those to establish mastery in the topics and fill your PIE. I strongly suggest you try to keep ahead and finish assignments early **before the due date** because then all prior assignments are opened up for you to review.
- ALEKS will periodically provide you with progress assessments known as Knowledge Checks. These Knowledge Checks may not be skipped. They provide the software, your instructor, and you with detailed information about your progress, and they will allow ALEKS to continue to provide you with the material you are ready to learn and give you credit for the material you have mastered. Don't be afraid of Knowledge Checks. Knowledge Checks do not directly affect your grade, but they do assess how many

topics you have learned and thus factor in the completion of your PIE. You have the potential to gain or lose topics while taking a Knowledge Check. You may use notes on Knowledge Checks, so keeping well organized notes is an asset. When you finish your Knowledge Check, you may ask your instructor to email you a copy. These are excellent to keep in your notebook.

- You will be taking exams within ALEKS. You will need to use the "Respondus LockDown Browser" in ALEKS. You will have to download the software for this. You will be given 1 hour and 30 minutes to complete Tests 1—3 and 3 hours to complete the Final Exam.

Exams need to be done on the following dates:

- **Test 1: Friday, September 11, 2020**
- **Test 2: Friday, October 16, 2020**
- **Test 3: Friday, November 13, 2020**
- **Final Exam: Monday, December 7, 2020**

Note: 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.

- **Missed Exams**

A missed exam is a serious issue! The course schedule has all exam dates clearly marked and there are very few acceptable reasons to miss an exam other than an emergency or serious illness. If such an emergency occurs and you miss an exam you must email the instructor immediately (within 24 hours unless unable) and schedule to take a make-up within 2 days of the missed exam.

Be aware that make-ups are entirely at the instructor's discretion. Even though you may deem a situation an emergency it does not guarantee the right to a make-up.

If you miss an exam and do not contact your instructor immediately, you will get a zero for the exam and you may be dropped from the course.

- **Accessing ALEKS:**

- Your ALEKS access for this course is already available to you through your course fees. There is no need to purchase an ALEKS access code.
- Go to www.aleks.com
- Select the yellow **Sign Up Now!** button. **Important Note: All students need to Click on this button even if you have used ALEKS before. Don't log in at the login page. You will be prompted for your login information later.**
- Enter the 10-digit ALEKS Class Code provided by your instructor
- After you put in your course code, you should see your class information. Make sure that you are registering for the correct class. You should see your instructor's name.
- At this time you will be prompted to create a new account or log in with an existing ALEKS account.
- You must use your UNM email as your ALEKS account email address.
- A video that shows how you register and how you access ALEKS is at this URL: <http://video.mhhe.com/watch/CTE1qgdpUkhtZy4r7naEdH>
- Additional ALEKS student support is at this URL: <https://www.aleks.com/highered/students>

- **ALEKS TechSupport:** If you are having trouble registering for or accessing ALEKS, please contact ALEKS Customer Support. Live chat, email, and phone support are available 7 days a week.

When contacting a support agent, you will always receive a case number. It will be important to save this case number if additional follow up or documentation is needed.

- ▶ **Hours (EST):** Sunday: 4 PM–1 AM EST
Monday - Thursday: 7 AM – 1 AM EST
Friday: 7 AM – 9 PM EST
- ▶ **Phone Number:** (800) 258-2374
- ▶ **Website:** <https://mhedu.force.com/aleks/s/>
- ▶ Ensure your computer meets system requirements by going to this link:
https://www.aleks.com/support/system_requirements

VI. Written Work

One of the Student Learning Outcomes is “Communicate mathematical information using proper notation and verbal explanations.” Thus, In addition to ALEKS homework, you will be asked to solve problems using pencil and paper and showing all your steps and explaining your reasoning. This is how you will get feedback on your notation and presentation of your mathematical work.

These Written Work assignments will be weekly and submitted via Learn.

To get full credit on graded written 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.

VII. Grading

Your grade will be determined based on your performance on the following:

Source	Percentage
Written Work	10%
ALEKS Objectives	10%
ALEKS PIE Completion	10%
ALEKS Exams	70%
Total	100%

How Grades Are Determined:

98–100 A+	87–89 B+	77–79 C+	67–69 D+
93–97 A	83–86 B	70–76 C	60–66 D
90–92 A–	80–82 B–		Below 60 F

There will be **NO** extra credit.

VIII. Get Help!

We, as math faculty, do our best to present the material in a clear way and our lectures or explanations might make it seem that the material is easy. But learning math is not always easy, it can take a lot of work and effort. It is totally normal to sometimes get stuck on a problem. Learning to embrace the process of struggling and working through a solution is just as important as figuring out the solution itself.

Your instructor wants you to succeed and their drop-in office hours are offered to help you through the learning process. During office hours your instructor can work with you on questions, clarify concepts, and work more examples. You can also simply come to see what other people are asking or discussing.

Take advantage of your instructor's drop-in office hours. We are here to help you!

In addition to getting help from your instructor, there is extra help available at:

- **CAPS:** Center for Academic Program Support. CAPS is the learning assistance program available to UNM students enrolled in undergraduate classes. CAPS is located on the 3rd floor of Zimmerman Library, (505) 277-7205, Website: <https://caps.unm.edu>.
- **Student Health and Counseling Resources:** : SHAC provides quality health and counseling services to all UNM students to foster student success. Phone Number: (505) 277-3136. Website: <http://shac.unm.edu/services/mental-health/index.html>
- **Accessibility Resource Center:** The Accessibility Resource Center (ARC) recognizes individuals with disabilities as an integral part of a diverse community and is committed to the provision of comprehensive resources to the University community (faculty, staff, and student) in order to create equitable, inclusive, and practical learning environments. Website: <https://arc.unm.edu/index.html>

IX. Additional UNM Information

Attendance: Students are expected to fully participate in the course. Participation includes attendance in face-to-face and remote scheduled sessions, completing homework in a timely manner, participating in class discussions, getting help when needed.

If a student has excessive missing assignments they may be dropped from the course.

Registration, Drop, and Grade Change 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. For full term classes in the fall 2020 term the deadlines are:

Friday, Aug 28, 2020	Add a course, change sections, or change grade mode in LoboWeb
Friday, Sep 4, 2020	Last day to drop without a grade and with full tuition refund
Friday, Nov 6, 2020	Last day to withdraw on LoboWeb without the Dean's permission (grade of W assigned)
Friday, Dec 4, 2020	Last day to withdraw with the Dean's Permission

Please note that it is the student's responsibility to drop the course if they stop working on topics or submitting assignments. A failing grade of F may be issued if the student stops submitting the required assignments and does not drop before the posted deadline. After the withdrawal deadline the instructor will not drop any student.

Student Behavior: All students have to abide by the Student Code of Conduct: 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. Students should strive to minimize distractions during ZOOM sessions, such as muting their microphone (unless directed by the instructor) and positioning their camera to avoid distracting content in the background. Students are expected to behave in a courteous and respectful manner toward the instructor and their fellow students.

Academic Honesty: As a student you are taking this course because you want to learn the material well. It may be tempting to look up solutions on the many venues available online. Our goal is to support you so you come out of this class with a clear understanding and vision of the tools mathematics gives you. You learn mathematics by practice. If instead you simply go online and copy answers you will not learn the material. So, please know that struggling is OK, and it is perfectly OK to try, think about something for a bit, and then get more insight by asking questions.

Academic dishonesty of any kind will not be tolerated. Broadly speaking, academic dishonesty is representing someone else's ideas as your own. The instructor may warn an offending student, the score of an assignment or exam may be reduced or 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.

Accessibility Statement: We will accommodate students with documented disabilities (through ARC - the Accessibility Resource Center). During the first week of the semester, those students should inform the instructor of their particular needs.

Title IX Reporting Obligations: Our class 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, especially the LoboRESPECT Advocacy Center and the support services listed on its website (<http://loborespect.unm.edu/>).

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>.

X: Tentative Schedule (16 week classes)

Date	Start Date	Notes	Textbook Section	ALEKS Homework
Week 1	8/17/2020	Solving Equations and Inequalities	1.1/1.4/1.6 /1.7	HW 1
Week 2	8/24/2020	Lines	2.4/2.5	HW 2
Week 3	8/31/2020	Functions, Linear Functions, Average Rate of Change	2.3/2.4/2.5	HW 3
Week 4	9/7/2020	Monday, Sept. 7 Labor Day		
		Review, Test 1	1.1, 1.4, 1.6-1.7 2.3-2.5	HW 4: Review for Test 1
Week 5	9/14/2020	Library of Functions, Transformations	2.6	HW 5
Week 6	9/21/2020	Analyzing Graphs, Piecewise Functions	2.7	HW 6
Week 7	9/28/2020	Algebra of Functions, Function Composition, Difference Quotients	2.8	HW 7
Week 8	10/5/2020	Quadratic Functions	3.1	HW 8
		Wednesday, Oct. 7 Fall Break		
Week 9	10/12/2020	Review/Test 2	2.6, 2.7, 2.8, 3.1	HW 9: Review for Test 2
Week 10	10/19/2020	Polynomial Functions and Inequalities	3.2, 3.6	HW 10
Week 11	10/26/2020	Rational Functions and Inequalities	3.5, 3.6	HW 11
Week 12	11/2/2020	Tuesday, Nov. 3, Election Day		
		Inverse Functions, Exponential Functions	4.1, 4.2	HW 12
Week 13	11/9/2020	Review/Test 3	3.2, 3.5-3.6, 4.1-4.2	HW 13: Review for Test 3
Week 14	11/16/2020	Log Functions, Log Properties	4.3, 4.4	HW 14
Week 15	11/23/2020	Exponential and Log Equations	4.5	HW 15
		Thursday-Friday, Nov. 26-27, Thanksgiving		
Week 16	11/30/2020	Review for Final Exam		HW 16: Review for Final Exam
Week 17	12/7/2020	FINAL EXAM	Cumulative	

X: Tentative Schedule (8 week classes)

Date	Start Date	Notes	Textbook Section	ALEKS Homework
Week 1	8/17/2020	Solving Equations and Inequalities	1.1,1.4,1.6, 1.7	Initial Knowledge Check HW 1: Due 8/23/2020
Week 2	8/24/2020	Lines, Functions, Linear Functions, Average Rate of Change	2.3,2.4,2.5	HW 2: Due 8/27/2020 HW 3: Due 8/30/2020
Week 3	8/31/2020			Test1: To be done on 8/31/2020
		Library of Functions, Transformations, Analyzing Graphs/Piecewise functions	2.6	HW 4: Due 9/4/2020
Week 4	9/7/2020	Algebra of Functions, Function Composition, Difference Quotients	2.7,2.8	HW 5: Due 9/8/2020 HW 6: Due 9/13/2020
Week 5	9/14/2020			Test2: To be done on 9/14/2020
		Quadratic Functions, Polynomial Functions and Inequalities	3.1,3.2, 3.5	HW 7: Due 9/18/2020
Week 6	9/21/2020	Rational Functions and Inequalities	3.5, 3.6	HW 8: Due 9/22/2020 HW 9: Due 9/27/2020
Week 7	9/28/2020			Test 3: To be done on 9/28/2020
		Inverse Functions, Exponential Functions, Log Functions, Log Properties	4.1, 4.2,4.3,4.4	HW 10: Due 10/1/2020 HW 11: Due 10/4/2020
Week 8	10/5/2020	Exponential and Log Equations	4.5	HW 12: Due 10/8/2020
				FINAL EXAM: To be done on 10/9/2020