College Algebra
Math 121

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Office Hours
MW 10:30-12 and TR 10-12
or by appointment

1 Overview

Welcome to Math 121. Here is the UNM course description.

> Preparation for MATH 150 and 180. The study of equations, functions and graphs, especially linear and quadratic functions. Introduction to polynomial, rational, exponential and logarithmic functions. Applications involving simple geometric objects. Emphasizes algebraic problem solving skills. Meets New Mexico Lower-Division General Education Common Core Curriculum Area II: Mathematics.

This is an online course. By nature, you will be responsible for much of your own learning; however, I will be providing guidance throughout the course. I am always available for email and usually respond within 24 hours unless it's the weekend, so please don't hesitate to ask me for help with anything.

In particular, during office hours, I will be monitoring my email to answer any questions and I will also be uploading "smart pen" recordings. These will play the role of your "lectures" with the advantage that you can pause and play them back as often as you want.

Here is a list of **some** the most important aspects. You must read the entire syllabus.

1. You must complete the first week assignments or you will be dropped from the course.
2. You must scan and send me your guided notes and projects through blackboard.
3. The due date for the computational assignments is January 14. This is not a mistake. To do these assignments, you must enter the password from the corresponding guided notes. **Do not ask me for the password because I will simply refer you to the syllabus.**
4. The midterm and final must be done in person with a proctor, either on campus or with a proctor that you've made arrangements with.
5. I will hold face to face review sessions before the midterm and final.
6. You can email me with any questions. If you are local you can come to my office hours any time or make an appointment.

2 First Week Assignments

During the first week of class, we are going to get familiar with the course. You **must** do the following assignments by midnight on Sunday, January 21 or you will be **dropped from the class.**

1. Write a short introduction about yourself on the discussion board and respond to at least one other introduction.
2. Complete the blackboard orientation module. If you have done this in another online class you can show me your certificate and I'll give you credit for it.
3. Fill out and send me a signed course agreement through blackboard messages.
4. Enroll in my mymathlab course. The course id is smith56685.
5. Do the Chapter R test on mymathlab.

3 Course Learning Outcomes

By the end of the course, students will be able to do the following.

- Course Goal #1: Communication Addresses UNM core area 2/HED Area II: Mathematics (Algebra Competencies)
  - SLO 1: Students will use correct mathematical notation and terminology and will read and appropriately interpret various representations of information.
  - SLO 2: Students will verbalize the steps needed to solve a problem.
  - SLO 3: Students will use various course technologies to connect with each other and the instructor, and to access course materials.
- Course Goal #2: Solve various kinds of equations Addresses UNM core area 2/HED Area II: Mathematics (Algebra Competencies) Competency 2
  - SLO 1: Students will solve linear equations and systems of two and three linear equations.
  - SLO 2: Students will solve polynomial equations including quadratics (polynomials of degree 2) and factorable polynomials of higher degree.
  - SLO 3: Students will solve rational equations by identifying the least common multiple needed to simplify the equation, and by identifying extraneous solutions to the original equation.
  - SLO 4: Students will solve radical equations using inverse properties of exponents.
  - SLO 5: Students will solve exponential and logarithmic equations using the properties of exponents and logarithms.
  - SLO 6: Students will identify the standard and general form for the equation of a circle, will convert between the two forms using completing the square, and will identify the center and radius for the circle.
- Course Goal #3: Working with functions Addresses UNM core area 2/HED Area II: Mathematics (Algebra Competencies) Competency 3

  - SLO 1: Students will identify the domain and range for a given function and find the function value given a domain value as well as find the domain value given a specific function value.
  - SLO 2: Students will add, subtract, multiply and divide given functions, will create a composite function given two or more functions, and will show the decomposition of a given function into its basic parts.
  - SLO 3: Students will identify and categorize functions according to the general properties of families of functions. For example, Students will recognize whether a given function is from the polynomial, rational, radical, exponential or logarithmic function family.

- Course Goal #4: Working with graphs Addresses UNM core area 2/HED Area II: Mathematics (Algebra Competencies) Competency 1
  - SLO 1: Students will determine if a given graph represents a function.
  - SLO 2: Students will graph a circle given either form of the equation of a circle (standard or general).
  - SLO 3: Students will graph a given function by identifying the following features for the function • The domain and range • The x- and y-intercepts, if they exist • End behavior • Asymptotes if they exist • Intervals where the function is increasing or decreasing • Local maxima and minima
  - SLO 4: Students will determine the properties and behavior of a function given only the function's graph. In particular, the domain and range, intercepts, end behavior, asymptotes and specific values of the function.

- Course Goal #5: Modeling and solving applied problems Addresses UNM core area 2/HED Area II: Mathematics (Algebra Competencies) Competency 4
  - SLO 1: Students will identify slope as a rate of change within the context of a given word problem, and will express in their own words what the slope represents for that specific situation.
  - SLO 2: Students will construct appropriate equations to model a situation presented to them through a word problem. They will extract information from a word problem in such a way that allows them to identify the general behavior of the data through graphing.
  - SLO 3: Students will find maximum or minimum values for word problems which are modeled by quadratic functions.
  - Ultimate SLO: Students will identify the family of functions that is illustrated within an applied problem, either by representing the situation with a graph or using their understanding of how certain phenomena behave to describe the function. For example, constant rate of change is a property of linear functions, free-falling objects are modeled by quadratic functions, and compound interest grows exponentially.

4 Tools Required

The text for this course is College Algebra, Tenth Edition, by Sullivan. The bookstore should have hard copies of the book with MML access codes, or just the access codes available. Or you may purchase the access code when you register in MML for our course. If you want a hard copy of the book, rather than just reading the etext, be sure you buy one with a valid MML access code.

1. You will need a Pearson account. If you have used any of the Pearson My Lab products before, you can use the same account you created the first time you used it.
2. You will need a Student Access Code which can be purchased from the Valencia campus Bookstore or online (credit card required) when you register for the course at http://pearsonmylabandmastering.com/ .
3. You will need to register for our course in MyMathLab. Go to http://mymathlab.com/ or http://pearsonmylabandmastering.com/ and follow the steps to register. Our course ID is: COURSE ID: smith56685. Once you register, run the Installation Wizard to make sure you have all the appropriate software installed on your computer.
4. You will need access to Blackboard Learn. This is the primary program we will use for communication in the class. You will use your UNM NetID to log into Learn. You may access it directly via http://learn.unm.edu
5. You will need to use a scientific calculator for this course. You need not own a graphing calculator. Any assignments that require the graphing of functions you can also do using free software on the internet.
6. You will also need administrative rights to download free software or plug-ins or add-ons on the computer you plan to use for this course. If you do not own a computer, and you are working from the computers on campus, make sure all of the programs will work properly.
7. You will need the latest Javascripts and QuickTime player (both free downloads). Be sure to run the Installation Wizard in MML the first time you login to our course
8. Adobe Reader (a free download), preferably version 11.0 or better.
9. To run MyMathLab I have had good luck with Google Chrome, but Mozilla Firefox and Safari also work. Also, MyMathLab is supposed to be fully compatible with tablets and mobile devices.
10. To run Blackboard Learn and all of the programs embedded in it, you will likely have the best luck using Google Chrome, Mozilla Firefox, or Safari. Learn is also supposed to be fully compatible with tablets and mobile devices.
11. You will need high-speed internet and the ability to upload free software to access the online materials.
12. You will need the ability to scan and upload your written assignments. If you do not have access to a scanner, there are mobile apps available that make PDF's with the camera on your cell phone.

5 Course Structure

You must read this section very carefully to find out how to get the passwords for the computational assignments. If you don't read carefully, you will not be able to access them.

- Homework: Your homework will come in two parts: Guided Notes and Computational Assignments.

- Guided Notes: These questions come from the sections of the book you are supposed to read and the Media Assignments given in MyMathLab for each unit that you should complete before completing the Computational Assignments. These assignments will be posted in Learn in the appropriate folder for each unit. Do not skip these assignments.
- Once you have the questions in front of you, you need to go to that section of your book. On the homepage in MML you will see a button in the left toolbar that says etext. Click on this button. Select view eText. This is where you may encounter a problem if you do not have the correct add-ons or apps installed. Check which section the Guided Notes are about, and then select the folder for the correct chapter. In the window that opens there will be a list of the sections for that chapter. Click on the correct section and it will take you to the eText.
- Some of the questions in the Guided Notes are linked to recordings given in the Media Assignment for that unit. The etext should have opened in a new tab or a new window, so you can return to the original tab or window in your web browser to go back to the homepage for our course in MyMathLab. Select the Assignments link and you will see the Unit * Media Assignment. Open this assignment so that you can watch the recordings indicated in the Guided Notes and complete those questions.
- You will need to complete the Guided Notes "by hand." Also, embedded in the Guided Notes for each unit will be the password you will need to open the Computational Assignment. Once you have completed these notes you may either
  - Drop them off for Mychael Smith at the Academic Office at Valencia Campus
  - Scan them as PDF documents and then send them through blackboard messages. Please send me one document per set of guided notes rather than a document for each page. In Learn, you can only attach one document in a message. If you do not own a scanner, there are free apps you can load on your smartphone that will allow you to create a readable PDF document. Some people like to keep their Guided Notes to refer to while completing the other assignments for the unit. That is fine, but be sure to submit your Guided Notes by the Quiz deadline date.
- Computational Assignments: These questions are posted in MML. Here are instructions for accessing these assignments.
  - On the tool bar in MML (left side of window on home page), click on Assignments.
  - You will see a list of the Media Assignments, Computational Assignments and Quizzes with their due dates. Notice that the due dates for all Computational Assignments are **January 14, 2018**. This is not a mistake. If you have the password you should have found while completing the Guided Notes, you will be able to open the Computational Assignment for the unit. Click on the assignment you want to complete.
  - You are automatically allowed to work past deadline on Computational Assignments, so you won't need to ask for extensions, but do not get behind. The quiz for that unit will not open until you have scored at least a 60% on the Computational Assignment.

I have divided the material in the book into 11 units. These divisions include usually two or three sections of the text but may include material from only one section or as many as four. After you complete the homework for the unit (both the Guided Notes and the Computational Assignment) you will then take the quiz on that material. You are allowed 3 attempts on these quizzes. I consider

mastery a score of at least 75 to 80%. You should strive to achieve this score. If not, study the material again and retake the quiz. The quiz will not open for you until you have scored at least a 60% on the Computational Assignment, but do not expect to do well on the quiz if you stop at 60% on your computational assignment.

- Projects: You will be assigned several projects throughout the semester. You may work on these in small groups, but make sure to turn in your own work. If there are exact copies, I will not accept them. These projects will emphasize concepts that the book does not cover well and are a required part of the learning objectives, so they are required! Don't ignore them.

- Midterm and Final Exams: The midterm exam and the departmental final exam must be taken in person. If you cannot come to Valencia Campus to take these exams, you will need to make arrangements to have the exam proctored. Talk to me as soon as possible about how to find a proctor. The midterm counts 10% of your course grade and the final counts 30% of your course grade. Also, you must score at least a 70% on the final exam to pass the course.

- Extensions on Assignments: If events in your life or trouble with technology require you to miss a deadline for a unit quiz I will grant up to four extensions on quizzes. You will already be able to work past deadline on the Computational Assignments, so you need not request an extension for these. Guided Notes are not considered late as long as I receive them about the time the quiz for that unit is due. Projects and Participation Activities associated with a unit must be completed in the time window during which the unit is open in Learn. There are posted due dates for these assignments, which you should meet. If you turn them in early, that is excellent! However, they are designed to go with the unit in which they are posted so don't get ahead of the other assignments. If you turn in a project or activity later than the posted due date, I reserve the right to dock your score at least 10%.

- Support: If you are struggling in this course, do not be afraid to ask for help. In particular, do not be afraid to click on the Ask My Instructor button in MyMathLab. This button is available in the computational assignments and in the quizzes.

  - Office Hours: Please come to my office hours either online or in person. If you can't make it, make an appointment with me.
  - Form study groups: You may work together with other members of our class.
  - Free Tutoring: The Learning Center has free tutoring and open labs. Call 505-925-8907 for more information. There is also tutoring available in the STEM Center. Call 505-925-8515 for more information. If you do not live in the Albuquerque or Valencia County area you should explore other options for tutoring.
  - Online Resources: In Blackboard Learn I will post SmartPen recordings that I have created to answer questions.

- Netiquette and Behavior Expectations: One of the overriding principles in online conversations is to "craft your responses effectively." It is sometimes difficult to remember that there are real people reading posted messages. This is especially true of online communication where others do not have the opportunity to see body language or hear tone of voice; therefore, they have a greater possibility of misunderstanding what is meant. Please, follow these guidelines in all of your online messages.

  - Honor everyone's right to an opinion.

- Respect the right of each person to disagree with others.
- Respond honestly but thoughtfully and respectfully; use language which others will not consider foul or abusive. You may also use emoticons to convey a lighter tone.
- Respect your own privacy and the privacy of others by not revealing information which you deem private and which you feel might embarrass you or others.
- Be prepared to clarify statements which might be misunderstood or misinterpreted by others.

6 Grading Policy

Your grades will be calculated as follows.

Requirement	% of Grade
1.Homework	20%
2. Quizzes	20%
3. Projects	20%
4. Midterm	10%
5. Final	30%

You must receive at least 70% on the final exam to get credit for the class.

7 Make-up Policy

I will allow up to four late submissions of quizzes or projects with no questions asked. Once you've reached four late assignments, I won't accept any more late assignments for any reason.

8 A note on academic integrity

We will follow university policy and on 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.
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> 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.

9 Students with Disabilities

If you have a documented disability, please provide me with a copy of your letter from Equal Access Services as soon as possible to ensure that accommodations are provided in a timely manner.

10 EQUAL OPPORTUNITY AND NON-DISCRIMINATION:

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 - http://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: This syllabus is subject to change, if needed.