

# Dual Credit College Algebra

## Math 121

Mychael Smith

### Instructor Information

Academics 142-A

(505) 925-8644

mysmith@unm.edu

### Office Hours

TW 9:00AM to 12:00PM

In STEM: W 12:00PM to 1:00PM

Or by appointment

## 1 Overview

Welcome to Math 121. Here is the 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.

## 2 Course Learning Outcomes

Math 121 Student Learning Outcomes: By the end of the course, students will be able to do the following.

1. Understand the concept of a function
  - (a) Apply the definition of a function.
  - (b) Identify domain and range. Interpret in context when appropriate.
  - (c) Use function notation to evaluate functions.
2. Build New Functions from Existing Functions.
  - (a) Use graphing transformations.
  - (b) Use function arithmetic.
  - (c) Find inverse functions.
3. Build and Analyze Graphs.
  - (a) Understand the relationship between a function's equation, table and graph.
  - (b) Identify or sketch the following key features of a graph: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; slope; vertex; and end behavior.

- (c) Create graphs using key features.
  - (d) Write the equation of a function or circle given its graph based on the key features shown (reverse of above outcome).
  - (e) Interpret key features of functions in context.
4. Apply Algebraic Techniques.
- (a) Evaluate numeric expressions in exact form and find decimal approximations for irrational numbers.
  - (b) Solve equations and inequalities.
  - (c) Simplify algebraic expressions to analyze functions and graphs.

### 3 Required Materials

I am using material from the following book.

- Beecher, Penna, Johnson, Bitinger, *College Algebra with Intermediate Algebra: A Blended Course* (Pearson, 2017).

**You do not need to purchase this book.**

At the end of this syllabus will be a schedule of topics you will cover in class.

### 4 Attendance Policy

In this course, we will adopt the attendance policy of your high school teacher.

### 5 Course Structure

In this class, you will be doing “reading assignments” every week. You’re teacher will provide you the required readings. In addition, there will be four Dual Credit Assignments with college level problems based on the reading assignments. I will be coming to class four times throughout the semester to help and answer questions about these assignments.

### 6 Grading Policy

Your grades will be based on a combination of your high school work and the work I give you. The reading questions are for me to see that you are trying read and learn and the Dual Credit Assignments are to assess your learning. I will also give out a midterm and final exam. Before you take these I will give your teacher review exams to help you study. I will also make arrangements with your teacher to go to you class periodically to answer questions and help with the reviews. Your grade will be calculated as follows.

<b>Requirement</b>	<b>Points</b>
1. Reading Questions	100
2. High School	150
3. Dual Credit Assignments	100
4. Midterm	100
5. Final Exam	200
Total	650

Your letter grade will be calculated as follows:

<b>Point Total</b>	<b>Grade</b>
[637,650]	A+
[598, 637)	A
[585,598)	A-
[572,585)	B+
[533,572)	B
[520,533)	B-
[507,520)	C+
[455,507)	C
[442,455)	D+
[403,442)	D
[390,403)	D-
[0,390)	F

## 7 Make-up Policy

I will allow up to two late submissions of reading assignments and one dual credit assignment. This should account for any emergencies that come up.

## 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.

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](http://oeo.unm.edu)). For more information on the campus policy regarding sexual misconduct, see: <https://policy.unm.edu/university-policies/2000/2740.html>.

## 11 Schedule

## 12 Schedule

Week number	Sections Covered in Text	Assignments Due
1	R.4,R.5,R.6	N/A
2	1.1-1.5	Reading 1
3	2.6,2.7,3.1-3.4	Reading 2, DC 1
4	4.3-4.8	Reading 3
5	7.1-7.5	Reading 4, DC 2
6	2.1-2.4,6.8	Reading 5, MML 5
7	5.1-5.4 (Review from 120) Distance Formula, 11.2 (only circles)	Review for midterm
8	Midterm Review and Midterm	Midterm
9	Spring Break	N/A
10	9.1-9.3	Reading 6, DC 3
11	9.4,9.5	Reading 7, MML 7
12	9.6,9.7	Reading 8
13	5.3-5.5	Reading 9, DC 4
14	6.1-6.3 (Review from 120) 6.4-6.7	Reading 10, MML 10
15	8.1-8.6	N/A
16	Review for Final	Study for exam
17	Final Exam	Final