

Dual Credit Intermediate and College Algebra Blended Math 120

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Office Hours
MTW 9:30-11:30
Tr 10:00-11 in LRC
and by appointment

1 Overview

Welcome to Math120 Dual Credit blended. Here is the UNM course description for Math 120. In the Spring, we will be doing Math 121.

Preparation for MATH 121, 129 and STAT 145. Covers linear equations and inequalities, polynomials, factoring, exponents, radicals, fractional expressions and equations, quadratic equations, perimeters, areas of simple geometric shapes, and logarithms. Emphasis on problem solving skills.

Here is the UNM course description for Math 121

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.

In this course, we are going to be covering a blended version of these two courses. The material from the first semester will approximately cover Math 120 and the second semester will cover Math 121, but the goal is to make a seamless transition between the two courses.

2 Course Learning Outcomes

Here are the student learning outcomes from these courses, broken down into Math 120 and Math 121.

Math 120 Student Learning Outcomes: By the end of the course, students will be able to do the following.

1. Students will obtain the following *skills*.
 - (a) Sketch the graphs of linear, quadratic, and exponential functions.
 - (b) Solve systems of two linear equations.

- (c) Solve quadratic equations using factoring, quadratic formula, and the square root method.
 - (d) Solve equations containing rational expressions.
 - (e) Perform operations on polynomials and factor certain types of polynomials.
 - (f) Solve polynomial equations by factoring.
 - (g) Correctly use function notation and vocabulary related to functions.
 - (h) Find the value of a function for a given domain value.
2. Students will obtain the following *conceptual understanding*.
- (a) Interpret slope in relation to variable coefficients and as a rate of change.
 - (b) Apply solution methods learned to “real-world” problems.
 - (c) Analyze solutions and give them contextual meaning.
 - (d) Actively and effectively work in groups to solve problems and increase understanding of concepts, drawing on the skills and knowledge of all group members.

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 Text

The required text for this course is:

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

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, I'm going to ask you to read. Every week, I will send out reading questions for you to answer through Blackboard Learn. You *must* have answers to the reading questions prepared on your own paper and they will be due on Fridays.

1. Reading Questions: There will be 12 reading assignments. These reading questions will be used to see how much you've read. I may ask you to tell me anything you've found particularly interesting or tell me which definitions or examples you've had trouble understanding. I may invite you to ask me any questions you have about the reading.
2. Weekly Emails: Every week, you will be required to send me a message through Blackboard telling me how you did the previous week. You should tell me what you had trouble with, what you found interesting, and ask me any questions you have about the material for the week.
3. Quizzes: There will be 12 quizzes throughout the semester. I will drop the lowest two quiz scores.

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 and emails are for me to see that you are trying to read and learn and the quizzes are for me to see how much you've learned. 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 your class periodically to answer questions and help with the reviews. Your grade will be calculated as follows.

Requirement	Points
1. Reading Questions	100
2. Participation (emails)	50
3. High School	150
4. Quizzes	100
5. Midterm	100
6. Final Exam	200
Total	700

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 three late submissions of reading assignments. I will drop the two lowest quiz scores, so I will not allow any make ups for those.

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

11 Schedule

This is the Fall 2018 schedule.

Week number	Sections Covered
1	R.1,R.2,1.1 and 1.2
2	2.1,2.2,2.3
3	2.5,2.6
4	3.1,3.2,3.3
5	3.4,1.4
6	R.3,R.7,6.1,6.2
7	9.1,9.2,9.3
8	Midterm Review and Midterm
9	9.4,9.5
10	4.1,4.2,4.3
11	4.4,7.1,7.2
12	7.4,7.5
13	5.1,5.2
14	Thanksgiving
15	6.1-6.3
16	Review for Final
17	Final Exam

This is the Spring 2019 schedule.

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